VOLUME XCII NUMBER SIX

THE NATIONAL GEOGRAPHIC MAGAZINE

DECEMBER, 1947

PUBLISHED BY THE
NATIONAL GEOGRAPHIC SOCIETY
WASHINGTON, D. C.

$5.00 A YEAR — 50c THE COPY

VOL. XCII, NO. 6 WASHINGTON DECEMBER, 1947

THE NATIONAL GEOGRAPHIC MAGAZINE

Louisiana Trades with the World

BY FREDERICK SIMPICH

With Illustrations by Staff Photographer J. Baylor Roberts

LUSH Louisiana, basking astride the Mississippi Delta, faces south on the Gulf of Mexico. Set thus on a great world trade route, she was born to barter.

On a map the Mississippi River system looks like a tree, whose roots fan out to form its marshy Delta. Big limbs are the Missouri, Ohio, Arkansas, Red, and other tributaries. Cities as far apart as Pittsburgh, Omaha, and New Orleans haul freight on the flood.

Linked with the Intracoastal Waterway (which ties Texas to Florida), this net gives Louisiana access to nearly 15,000 miles of navigable inland and coastal waterways!

What with railways and truck lines, these rivers and canals make paths for men and goods moving between the rich, factory-dotted Midwest and globe-girdling sea lanes that run in and out of the busy Gulf.

There's nothing new about this trade route. It's just busier. Coonskin-capped Kentuckians sent flatboats loaded with flour, live pigs, and cattle down the Ohio and Mississippi as early as 1782.

Pioneer St. Louis traders floated furs, venison hams, and lead for bullets down to New Orleans, swapping them for weapons, axes, wild-animal traps, and drugs, even perfumery, silks, and musical instruments.

Later the first locomotives used on Midwest rails came from the Atlantic coast, through the Gulf and up the Mississippi.

City That Care Forgot

Today New Orleans is one of our busiest ports. It's not exactly a seaport, for it stands 110 miles up the Mississippi from the Gulf. (See map supplement to this issue.) But ocean-going craft easily reach it, and many go on to Baton Rouge, farther upstream.

To the Deep South New Orleans is a center of wealth, culture, and social leadership. To hosts of travelers it is the "city that care forgot," Mecca for honeymooners and pleasure seekers.

Most Louisiana visitors rush straight for New Orleans. They're eager to see Mardi Gras, taste French food, prowl noisy night spots, outsmart Royal Street antique dealers, or swap blithe banter with Creole maids who sell perfumes and pralines and play accordions in Bourbon Street cafes.

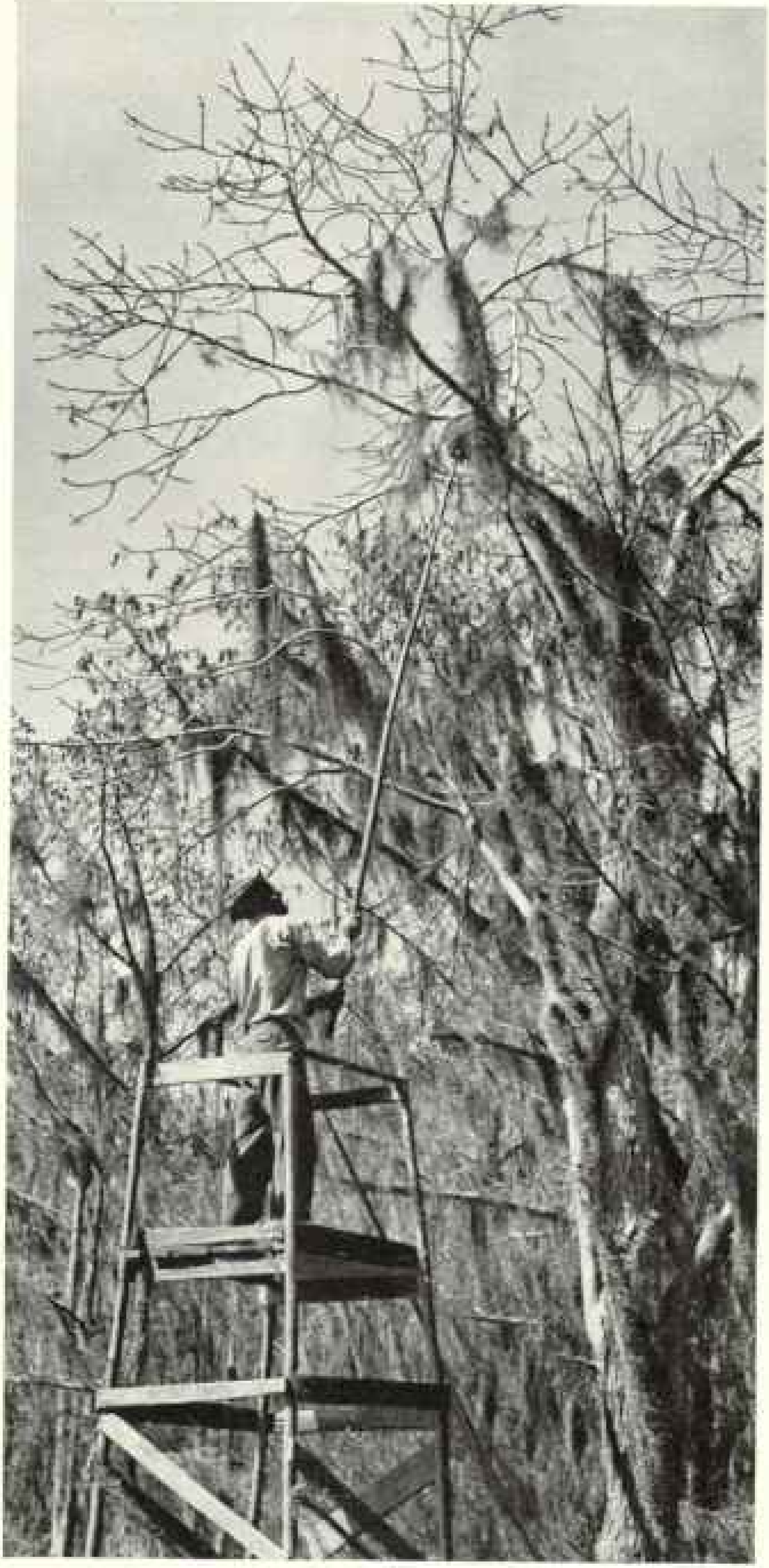
"America's most interesting city." That's what many insist. When I dined in the old French Quarter at the "Court of the Two Sisters" and heard Louisiana historian James J. A. Fortier recount its melodramatic past, I too felt its romantic, *Arabian Nights*-like spell.

On the Back Roads and Bayous

But that's another story, that saga of New Orleans and its adventurous annals of pirates, smugglers, duels, quadroon balls, steamboat races, and gentlemen gamblers.* What I came to write is the modern story of sprawling, changing Louisiana itself, a State that has seen pioneer barter built up into a sea-borne commerce that now covers the earth.

Slow and easygoing these friendly people seem—at first. A sign on the Western Union door at Leesville said, "Gone to coffee. Back in 30 minutes." All over the State everybody knocks off for mid-morning coffee. At the merest hint they'll drop their tools and go fishing. But don't let that easy gait fool you.

* See "Louisiana, Land of Perpetual Romance," by Ralph A. Graves, NATIONAL GEOGRAPHIC MAGAZINE, April, 1930.



In Louisiana's Gray-bearded Swampland, Even a Rolling Stone Could Gather Plenty of Moss

This picker of Spanish moss on a lake near St. Martinville plies his pole from a ten-foot platform built on a flatboat. The gray, gracefully hanging growth, called "Spaniard's beard" by the French and "Frenchman's wig" by the Spaniards, has been used for pillows, mattresses, and other articles since early colonial times. The black, horsehairlike inner fiber is used today chiefly in upholstery.

Remember that tortoise who outran a rabbit?

Ride out of New Orleans in any direction and you run into other worlds. Only a short hop from its airports you may look down on country roads dotted with top buggies hauling happy people who live within their income.

On the Industrial Canal that links the Mississippi with Lake Pontchartrain rattles and smokes the great Higgins plant. Here they produce a completed camp trailer every six minutes and 100 boats of all types a week. Yet downstream behind the levees I found an old man planing a cypress board to glossy smoothness, making a fishing boat—a three-month job.

He can't read, but he has "literate" hands. He loves his art. His kindly smile over his work proves the old saying that to be happy is to love to do what you have to do.

Rowing up one bayou, we met a French-speaking boy. He was scraping grass along the water's edge with his pirogue paddle, hunting tiny turtles, the kind you buy alive in curio stores, with pictures painted on their backs.

This lad was 16, barefoot, and had never seen New Orleans. But he might well take his light dugout and win Bayou Barataria's great annual pirogue race, that aquatic Kentucky Derby of the marshes (page 722).

Drilling for Oil in Watery Wastes

On down a lonely levee road, almost to the Gulf itself, we came unexpectedly upon a giant dredge, digging its own channel into the marshlands, just as a mole digs its own tunnel.

Through such ditches barges haul pipes, steel for derricks, and all the equipment for sinking oil wells, to a spot picked by petroleum geologists.



Airplanes Sow Rice When Fields Are Too Muddy for Use of Land Machines

Flying between 15 and 20 feet, a pilot of the Louisiana Flyers Service, Lake Charles, plants 100 pounds of seed per acre. A flagman marks each row so the pilot will not miss a strip or sow one twice (page 721).



Staff Photographer B. Anthony Stewart

This Fat-tired, Grotesque-looking "Marsh Buggy" Navigates Bayous and Lagoons

Like a seagoing automobile, it can rock and wobble its clumsy way through water and deep, liquid mud. Field workers of the Gulf Oil Company use this one in the Lake Hermitage region oil fields (page 709).



A Muskrat Trapper's Wife Cooks Lunch while Drying Pelts Hang over the Kitchen Stove

Behind the stove the trapper's hip boots are also drying, as the family fox terrier licks the baby's platter clean. Trappers' families don't mind the smell of the pelts—that's where the money comes from (page 723). Oil men move in now to dispute swampland dominion with the trappers.

What a bonanza this watery waste proves to be! Humble, Shell, Tidewater Associated, Magnolia, Texas, Standard of New Jersey, Socony-Vacuum, United Gas Corporation, and others all drill here, knee-deep in muskrat grass. But it's like boring holes in a Sargasso Sea.

No wheeled vehicle but the clumsy amphibious "marsh buggy" dares venture in. Its absurdly fat tires let it run on top the mud or swim open water (page 707).

Work crews blow mosquitoes away with airplane propellers used as fans. Cattle, grazing on the *chênières*, or drier oak-grown flats, have died from being stung too often about nose and eyes.

One oil-field crew I saw lives in a houseboat, with screens. When they move "camp," a tug hauls their floating hotel.

Geophysicists, prospecting for new wells, may ride a marsh buggy.



"How Did You Win That $5 Grin?"

"I caught this guinea, sir," he said. The Lions Club turned it loose at a Fat Stock Show in Beauregard Parish and offered a prize of $5 to the boy who could catch it.

Strangest of all is their quest by boat in the open Gulf. Here as well as in the marshes seismologists fire off heavy dynamite charges, sometimes killing near-by fish, depth-charge fashion, and jolting shrimp and oysters (page 710).

To drill a submarine well, a platform to hold the derrick is set up on piles stout enough to withstand (they hope!) hurricanes that sweep the Gulf.

Tidelands Yield Oil, Fur, and Food

One Magnolia well is 23 miles offshore. When the sea gets too deep for platforms, a well may be "bent." This "directional" or lateral drilling is done with a whipstock, which bores the hole horizontally, straight out under the sea, at an angle from the original vertical well. Lately, Louisiana has leased more than 1,000 square miles of this "continental shelf" to oil companies at more per acre than the acre cost of many farms in the 1930's.

These oil-bearing tidelands stretch from the Mississippi west to Texas, and from their bayous, ditches, and estuaries thousands of muskrat trappers, shrimpers, and oystermen reap fortunes in fur and foods. More muskrats are trapped in Louisiana than in any other State (pages 708 and 723).

Crews on some shrimp boats consist of father, mother, and children. In nicking the heads off a shrimp with their thumbnails or helping handle the nets, many children are as clever as their elders (page 726).*

* See "Delectable Shrimp," by Harlan Major, National Geographic Magazine, October, 1944.



R. I. Nesmith and Associates

Seeking New Oil Pools, Prospectors Wade the Marshes

This is a "shooting party," out to make seismograph recordings. They determine subterranean geological structures by use of a sonic device. The lead man carries dynamite; the second carries sticks which are fastened together to lower the explosive into a drilled hole. Third and fourth men carry reels of wire, which connect to geophones spaced at regular intervals of several hundred feet from the shot holes to pick up the echo of the blast and record it on the seismograph apparatus. Depth and contour of formations below are figured out by measuring the time it takes for echoes of blasts at different points to bounce back to the surface (page 709).

In widely scattered huts these marsh folk lead lonely lives. Children ride in boats to school and church (Color Plate XVI). Roads are few. Along one road a doctor makes weekly trips. If anyone is sick, occupants hang out a white flag, a signal for the doctor to turn in.

This Gulf coast is so low, flat, and storm-swept that few towns stand on it. No part of all the United States coastline is so empty of human life. But along its north edge you find such prosperous towns as Houma, Morgan City, Franklin, New Iberia, and Abbeville, and so on west to Lake Charles.

End of Evangeline's Trail of Heartbreak

New Iberia, on Bayou Teche, was settled about 1765; today it has some 18,000 people, largely of French and Spanish descent. Visitors come to see its early homes, to enjoy a walk through the Jungle Gardens of near-by Avery Island, or to go north to St. Martinville for a look at its old Roman Catholic Church and its historic archives and to visit the Evangeline Oak.

Film actress Dolores Del Rio played the part of Evangeline, then posed for the Evangeline Monument which now marks the grave of Acadian immigrant Emmeline Labiche, who, says tradition, was the original of Longfellow's heartbroken heroine.

In its heyday, St. Martinville was known as "Little Paris." In the French Revolution refugees fleeing here included barons, marquises, counts, and countesses. The minuet was danced; some ladies came to balls in jewel-covered gowns they once had worn at court in France.

One faded epitaph reads: "Jne. Aspasie Bienvenue, Espouse de Fre. Olivier Deveron. Décédée le 27 Nov. 1811, âgée de 26 ans. Femme respectable et tendre mère."

Booming Shreveport Smacks of Texas

But what a difference between this tranquil, easygoing Cajun country and such restless boom towns as Monroe and Shreveport, in the northern part of the State.

"We're as far from the Gulf coast in our way of life as we are from the China coast,"

said John D. Ewing, publisher of the *Shreveport Times*. "I know. I was born and raised on the Gulf. I swam the Mississippi when I was 13, and watched hunters lasso alligators."

Shreveport, near the Texas line, resembles Dallas. It's full of cowmen in boots and big hats. Some streets here are named for early Texas heroes who passed this way to fight the Mexicans. At a Rotary luncheon a joker shouted that every man from Texas should stand—and all got up but four!

This rich, noisy town turned Indian tepees into skyscrapers, and dusty cow trails into paved highways. It's named for Henry M. Shreve, a steamboat man who helped Andy Jackson defeat the British under Pakenham at the Battle of New Orleans. He made it a Red River port. He cleared that river of its famous "raft," a giant log jam 160 miles long and centuries old, and opened it to navigation when Congress ordered this done.



Van Horn from Pan American Airways

A Calm Ass and Nervous Calf Fly Off to Nicaragua

This Noah's Ark of the air, launched by Oscar R. Whilden, New Orleans livestock broker, also carried purebred pigs, several horses, some Ohio calves, many gamecocks and hens, and three Airedale pups. "I ship lots of high-grade livestock by this Pan American flying Noah's Ark," said Mr. Whilden. "I serve no meals aloft, need no hostess—but get 'em there quick, and mortality insurance costs less than by surface ship" (page 728).

Here rises one of the country's great glass works. Shreveport dehydrating machines are used to dry sweet potatoes all over the South (page 721), while "stop-and-go" signs made here are used in New York City streets (Plate IV). Some of its luxurious homes shelter the families of Wisconsin and Michigan lumbermen who came here and amassed fortunes when virgin forests were thick.

Oil and Gas Supplant Cotton as King

When cotton was king, plantations of feudal magnificence flourished in rich, alluvial Red River Valley. Shreveport streets were blocked with bales; brokers worked in linen dusters, with lint in their whiskers. Today cotton is a mighty crop, and the making of cottonseed oil and cake is a big industry. But oil and natural gas are supreme.

Caddo Lake country, northwest of Shreveport, brought in pioneer oil wells. Near-by Texas and Arkansas fields add to the city's growth. Excited by oil booms, people flock here from every State in the Union.

Through its far-flung system the United Gas Pipe Line Company now delivers natural gas to customers from Mexico to Florida.

At Shreveport's Barksdale Field are the headquarters of the Army Air Forces' Air Training Command.

Shreveport is a good place to live. "The

bass get so hungry around here," says fisherwoman Ceola Curran, "that they've been known to jump out of the water and snap at a blackbird teetering on a lily plant!"

We drove south from Shreveport through Mansfield and Many, then east to Kisatchie National Forest. We saw men planting young trees, and cameraman Roberts took a picture of a fire fighter in action (Plate XI).

From here south to Kurthwood, on the road to Leesville, lie infinite leagues of empty land dotted with old stumps. Yet, despite ruthless cutting, shiploads of lumber still leave the State, to meet shiploads of foreign mahogany coming in—all a part of the net that holds our overseas trade together. Wood in all its forms helps the march of civilization.

Today 52 percent of the State is still forest area; 720 industries depend on trees for raw products. Originally there was an estimated 197 billion feet of standing timber, equal to one 12-by-1-inch board more than 37 million miles long!

Pioneers found more than 100 kinds of hardwood growing here. Soon after the Civil War, Baltimore and Philadelphia sent here for schooner loads of pine. Sawmills by the hundreds rose as railways spread. Southern pine built towns all over America and dominated the lumber markets of the world.

"Yet," declares Assistant Forester J. H. Kitchens, Jr., "our woodlands today are not worked at potential capacity. We have about 1,500,000 barren acres that need replanting. Fire is hurtful and so are bad cutting practices.

"But we see timber as our one replaceable natural resource. With the help of aerial fire patrols, radio-controlled fire crews, and all our replanting, we now grow more trees than we cut."

Ruts Recall "Battle of Louisiana"

Through stump-strewn hills on the road to Leesville you cross a network of ruts, deep and lasting as those old Santa Fe Trail ruts across the plains of Kansas. These were worn by tanks and cannon when some 350,000 troops maneuvered here in World War II.

"When the Army built Camp Polk here at Leesville," said one farmer, "we sure learned a lot about other kinds of Americans. Yankee soldiers married our gals; they shot all my frogs and they killed my goldfish when they washed their soapy socks in my pond. But I guess that's war."

Now Leesville is back to normal, with some 3,500 population, talking politics, listening to courthouse comedy, or going hunting.

"I brushed off a goose yesterday," said ex-sheriff Tom Bullock.

For decoys some hunters use old newspapers, twisted in the shape of a long-necked goose and dropped on the grass.

With Mr. Bullock I rode west to the Sabine River, the Texas border. This is the poorest part of the State I saw. You wonder how it lives.

"When my father ran steamboats on the Sabine," said one old lady, "lots of people lived around here, cutting lumber, and trade was good. I used to wring two chickens' necks at once, holding a chicken in each hand. Now there ain't a chicken on the place. It's hawks, I guess, and foxes.

"Wild foxes seemed to be all mad this year. They bit horses and cattle. In broad daylight a fox ran into one woman's backyard and tried to bite her as she was hanging out her washing. We're scared to go outdoors without a club."

Armadillos Dig Up Flower Gardens

Land gets better, houses newer and bigger, as you near De Ridder on the road south to Lake Charles. In this warm, lush land of sun and rain, flowers grow as in a hothouse—when armadillos don't dig at their roots!

"These clumsy creatures really have us garden fans hanging on the ropes," said an azalea lover. "Lately they're swarming over from Texas. Some say they swim the Sabine; others claim they lope over the bridges.

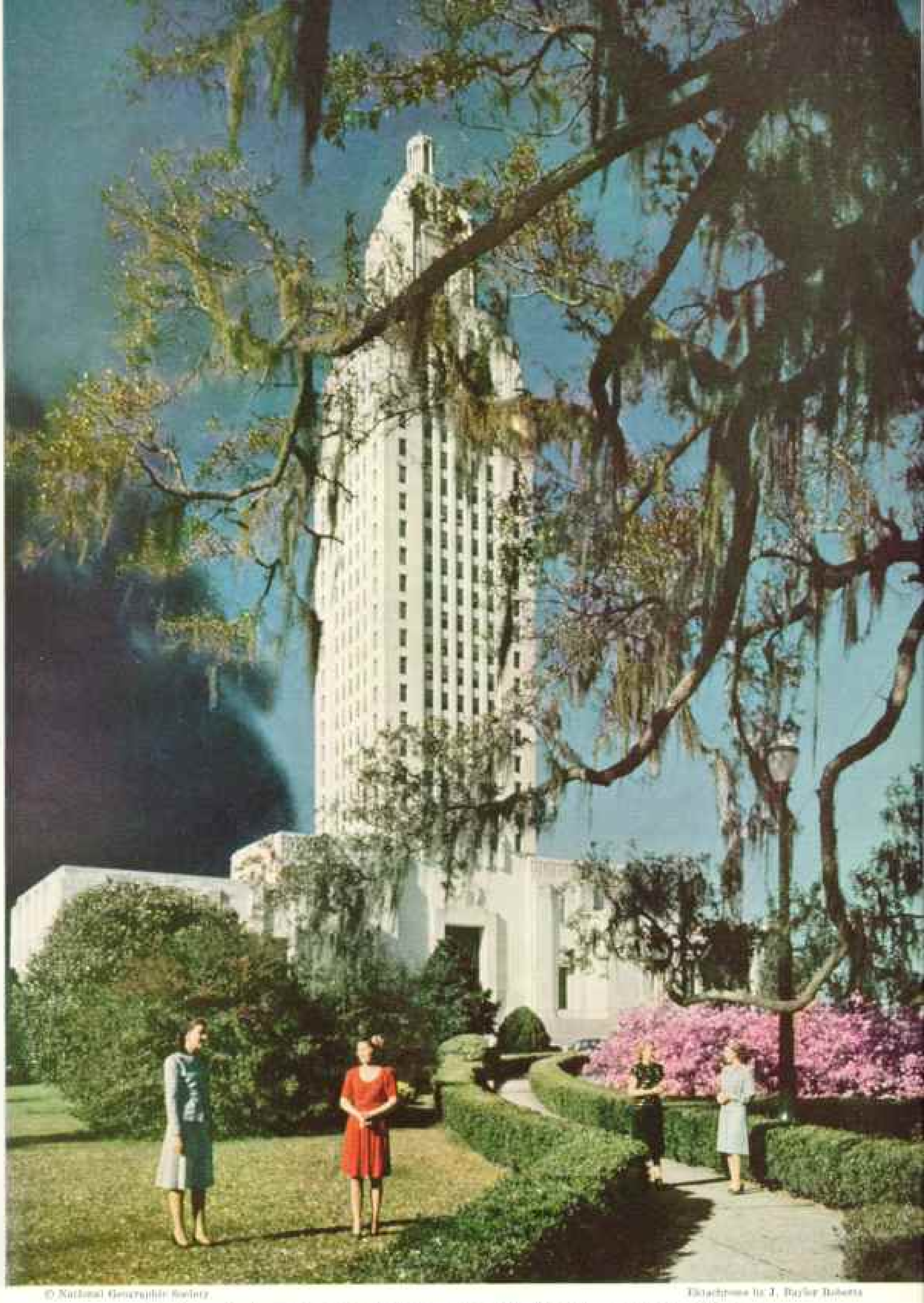
"Anyway, they're devastating our countryside. Digging for earthworms and crickets, they root up lawns and wreck flower gardens worse than pigs. It's hard to shoot 'em, since they raid only at night. To make it worse, the nasty things always have quadruplets."

Before railroads came, Lake Charles was a rough-and-tumble town of slavers and smugglers; then of shouting, shooting cowboys driving longhorns in from Texas, swimming maybe 2,000 a day across the Calcasieu on their way to meat-hungry New Orleans. Sawmills later made this a huge lumberyard.

Marion, it was first called. Pioneers didn't like that first site, so they loaded their log jail and courthouse on oxcarts and moved the town to where the city now stands, beside beautiful Lake Charles and the Calcasieu River (page 727).

To fly over this tree-shaded, flower-strewn city is like looking down on Eden, with the Hanging Gardens of Babylon set about palatial homes on Shell Beach Drive, where one private garden alone grows 17,000 azaleas and seas of camellias.

In place of Nebuchadnezzar's palace and the Tower of Babel rise enormous plants that make butadiene, caustic, ammonia, chlorine, and soda ash.



Ektachrome by J. Baylor Roberts

Louisiana's Towering Capitol Scratches the Clouds over Baton Rouge

Visible leagues away, this glistening edifice is a popular landmark for pilots. Each of its 48 steps is marked with the name of a State and the date of its entry into the Union.



Kodachrome by Howard E. Bader

Rex, King of Carnival and Lord of Misrule, Toasts His Queen on Mardi Gras Day

The King halts his colorful pageant before the special stand erected in front of New Orleans' famous old Boston Club, on throng-packed Canal Street, where waits his lovely consort (above uniformed Negro porter at right).



Kodachrome by J. Baylor Roberts

Acres of Shouting, Fun-loving Humanity Pack Canal Street During Mardi Gras

To New Orleans flock 100,000 visitors for the yearly carnival that ushers in the Lenten season. Center of the city's life is this wide, glittering thoroughfare, originally a drainage ditch. Beyond rolls the Mississippi.



IV

Ektachrome by J. Baylor Roberts

What a Motorist's Nightmare! A Whole Flock of Puzzling Traffic Lights. Some Say "Stop" as Others Say "Go"!

Shreveport's Southern Switch & Signal Company, Inc., makes traffic lights used now in every State in the Union and in foreign countries.



Camellias Adorn Daughters of Old France in Louisiana

Flowers and rich Acadian tradition flourish in French-speaking Lafayette.



Kodachromes by J. Baylor Roberts

Police Chief O'Neil Swings a Mean Blackthorn Shillelagh

A "B-flat hat" tops off his attire for the St. Patrick's Day parade in Thibodaux.



This Standard Oil Sphere at Baton Rouge Holds Isobutylene for Synthetic Rubber



Ektachromes by J. Baylor Roberts

Veins and Arteries of a Refinery Radiate from the Transfer Manifold

The pipe junction at Cities Service's Lake Charles refinery controls oil and gasoline flow through the whole plant. Safety flares burn in the background.



Ektachrome by J. Baylor Roberts

Giant Refinery and Other Industries Make Baton Rouge One of the Southland's Busiest Cities

Petroleum and kindred chemical research done by Standard Oil Company of New Jersey in its laboratories here is of world-wide interest. The structure above is a pilot plant for making gasoline from natural gas.



This Champion Aberdeen-Angus Bull Has Never Tasted Corn

Of course he eats grass, but dried sweet potatoes, being fed to him by Mary Virginia Feraud and Mary Cobb, are his chief fat-forming diet. He was bred on Lloyd Cobb's Marydale Ranch, St. Francisville.



Ektachromes by J. Baylor Roberts

Big Salt Blocks Are Made for Cattle to Lick

The white one is straight salt; colored ones contain minerals. Mined by Jefferson Island Salt Company, they are shown here by Mrs. S. H. Beadle and Miss Laurifie Dore.

Roaring so loud that on still nights you hear it miles away is the great $80,000,000 Cities Service refinery, whose "cat" crackers blow 60 tons of catalyst powder a minute into gas oil to make high-octane fuel. What a noise! Only a lion big enough to scratch his back on the Empire State Building could give such a growl.

Down to the Gulf Go Laden Ships

Southward stretches busy Calcasieu River and Pass Deep Water Channel, reaching the Gulf 35 miles away. Riding down the Channel, we saw tankers going to sea with oil products from Lake Charles.

There was a lumber ship loaded with Louisiana longleaf timbers for the Netherlands, one with Minneapolis flour for Brazil, one with Louisiana and Texas rice for Puerto Rico, and yet another with California and Arkansas rice for Manila—a ship that had brought in crude rubber, hemp, and copra.

Cameron town stands near the Gulf end of the Channel, in a vast coastal plain of cow ranches broken by muskrat swamps. It's so peaceful that its jail has been used as a corncrib!

One coon hunter baited his trap with a dead bird and caught a buzzard that had been banded years before on Avery Island.

We talked with a water-front grocer whose tiny store is packed to the ceiling with canned goods.

"I sell maybe $100,000 worth a year to the fishing boats," he said. "Though they're knee-deep in shrimp, oysters, and fresh fish, these sailors dote on canned salmon!"

Twilight fell as we turned back upstream. "Look quick, there in the water!" exclaimed my companion. "It's an alligator with horns!"

In the dusk, it did look a bit sea-serpenty, but it was only a cow, swimming with her back under and only her face and horns showing.

Our South Raises More Rice than the Whole United States Eats

That night I dined at the home of Capt. Harry G. Chalkley, Jr., USN, retired, who runs pumps that would suck the Calcasieu dry if it were not for the tremendous volume of water in this slow, clear river—pumps that pull 100,000 gallons of water from the stream per minute and throw it on 40,000 acres of land.

Rice here is sown and fertilized from airplanes (page 707).

"Since 1647, when Governor Berkeley started it in Virginia, our rice culture has had a vivid history," says Homer L. Brinkley, general manager of the American Rice Growers Cooperative Association.

"South Carolina in its early days supported what was perhaps our first agrarian aristocracy. Civil War, hurricanes, and competition from other regions wiped that out. Now ours is the leading rice State; we also help feed a hungry world. Shiploads go to Italy, Puerto Rico, even the Philippines (a rice-growing country). Louisiana rice is one of Cuba's largest food imports."

Here in southwest Louisiana we saw the most cattle, though the State still imports 40 percent of its meat products.

Stock raising once got a setback from tick fever. To banish ticks, Louisiana built a fence along much of the Texas border and passed a law that said dip everything with hair on its back. They couldn't catch all the wild horses to dip them, so they shot a lot.

Many men argued that ticks may serve a useful end or they wouldn't have been created! A few State officials trying to enforce the dipping law were shot by farmers.

Free of Tick Fever, Herds Multiply

By 1936 the State got free of tick fever; since then herds have doubled. Herefords predominate, but there's also friendly rivalry between Aberdeen-Angus and Brahman bull enthusiasts.

"These humpback Brahmans were first brought here by an Englishman who came to study sugar planting," said J. M. McLemore, who operates a big Brahman breeding ranch near Alexandria and whose 11-year-old son handles the ranch pay roll.

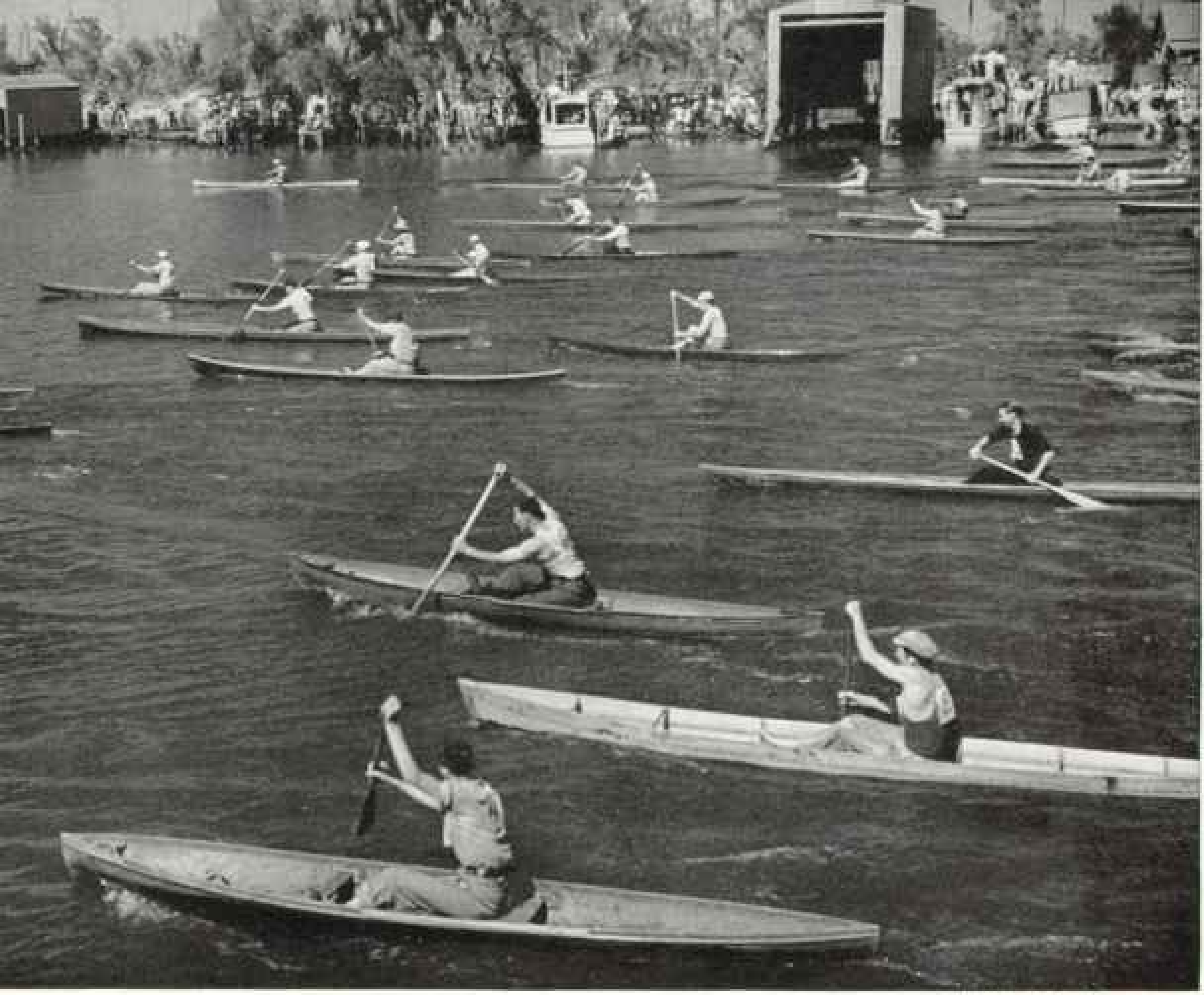
"They're ideal fever-resisting cattle. Their sweat glands give off an oily secretion repellent to ticks."

We drove our motorcar slowly into a herd of dehorned Brahman heifers. With the curiosity of antelope they crowded about us, thrusting their funny faces almost against the window glass. Big ears, like a doe's, set far down beside their cheeks, give them a clownish look.

Forage crops here include Dallis, Bermuda, Dutch white clover, lespedeza, etc. But, to fatten cattle for market, feed must be imported, and carloads of animals are shipped north for final fattening in Midwest corn-feeding lots.

Use of dried sweet potatoes as stock feed promises to change the whole bovine business.

For this all the South applauds Dr. Julian C. Miller, Head of Horticultural Research at Louisiana State University. Though he is noted for his breeding legerdemain with



W. McFadden Duffy

Acadian Trappers, Hunters, and Fishermen Compete in Their Famous Annual Pirogue Race on Bayou Barataria

Known as the "Kentucky Derby of the marshes," this hotly contested race arouses as much excitement and betting here as does the historic Oxford-Cambridge race at Henley on Thames. This event is staged on that same Bayou Barataria which was the rendezvous and sometime sanctuary of pirate Jean Lafitte and his reckless band of cutthroats and smugglers. The pirogue itself, a light dugout canoe made of a cottonwood or cypress log, was originally used here by Indians. The French took it over, and to this day it is the favorite form of marshland transportation. Best pirogues are eggshell thin and very light in weight.

strawberries, and his crossing of collards with broccoli and cauliflower, it's his wizardry with sweet potatoes which means most to the South, perhaps even to the whole world.

Miller makes "yams" bloom like the morning-glory vine to which the sweet potato is kin. He induces these blooms to yield seed, and from India, China, from all over the world, 200 or more visitors a year come here to ask for seed and for advice on how to grow better yams with that high carotene, or provitamin A, content which means better nutrition.

Columbus, on his first voyage to Cuba, found sweet potatoes. It seems likely they originated in the West Indies or Central America. But how they've spread! When that United States Army plane was wrecked in a New Guinea "Shangri-la," natives brought sweet potatoes as food for the survivors.

Today the sweet potato is the most important horticultural crop in the South. Louisiana, the largest shipper, may send out by rail and truck the equivalent of 14,000 carloads a year. In 1945 the Army ordered 20,000,000 pounds of dried sweet potatoes for soldiers' meals.

Cattlemen Salaam to the Yam

Besides these exports, some 75 or 100 plants are now busy drying yams for use as stock feed.

"The dehydrated sweet potato is equal to corn in most respects," Dr. Miller writes me, "and the vines themselves are equal to alfalfa hay in nutritional value for livestock."

"In our State today," said a cattleman, "the day is coming when we shall have more sweet-



Leo Pavelle from Three Lions

Hundreds of Square Miles of Watery Marshland Form the Rich Fur-trapping Regions of Southern Louisiana

Trappers move about by pirogue, skiff, flatboat, and launch. During the trapping season many live in houseboats, or in shacks along the bayou banks. Smoke is from fires intentionally started to make it easier to set traps. Muskrats dive into the water and are unharmed as swift-moving fires pass over them. It is commonly believed that periodic burning of dried grass aids the growth of new feed for muskrats.

potato drying plants than we have cotton gins."

"My big registered Aberdeen-Angus herd never tasted corn," says Lloyd J. Cobb, who owns showplace Marydale Ranch near St. Francisville. "I feed them dried sweet potatoes which Mr. Douglas Warriner and I dry in our own plant at St. Francisville.

"I think dried yams will finally replace corn as a stock feed here in the South because we can grow from 200 to 500 bushels of yams on an acre of land, whereas our corn crop may average not more than 15 to 20 bushels. When that day comes, the South will save the $500,000,000 a year it now spends for imported stock feed.

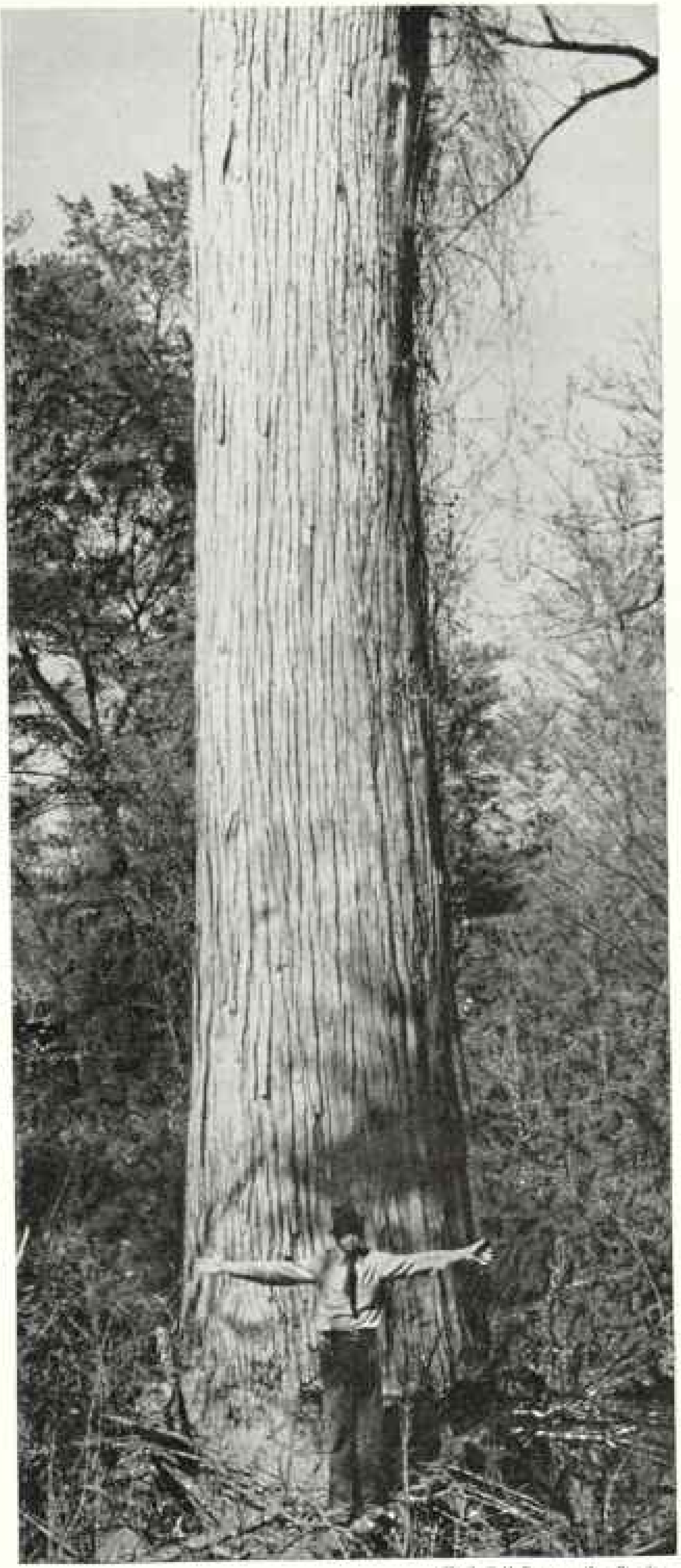
"Besides drying yams to feed our stock, in our plant we can carloads of sweets for human consumption. We pack them under the 'Marydale' label and those of a score or more of wholesale grocers, for sale all over the United States."

We made a picture of Mr. Cobb's little daughter, Mary, feeding dried yams to an 1,800-pound bull on her father's ranch. His yam-fed bulls and calves have taken blue-ribbon prizes at various stock shows (Plate VIII).

Here about St. Francisville you feel little or no French influence. English families came from Virginia and the Carolinas when French and Spanish still disputed the land. Mossy epitaphs about Grace Church bear fading names of men prominent in State history.

Mrs. Mary Willis of St. Francisville took me to visit at Highland, a stately home built by her ancestor, William Barrow, in 1799. Though it is not open to the public, its present owners, Mr. and Mrs. D. I. Norwood, are gracious hosts.

Mrs. Norwood, like Mrs. Willis, is a descendant of the first Barrow who came to West Feliciana Parish. For six generations



U. S. Soil Conservation Service

This Red River Parish Cypress Is Five Feet Through

Cypresses flourish in swamps, pushing roots above water for air.

the Barrow family and its relatives have lived uninterruptedly on this magnificent old estate.

"In this big drawing room," said Mr. Norwood, "the plot was hatched that finally unhorsed the Spanish rulers at Baton Rouge . . . Audubon, the bird painter, was often a guest here. In woods not far from here he painted that wild turkey . . . No! He didn't paint the turkey itself—just a picture of it!"

Baton Rouge Still Can't Believe It!

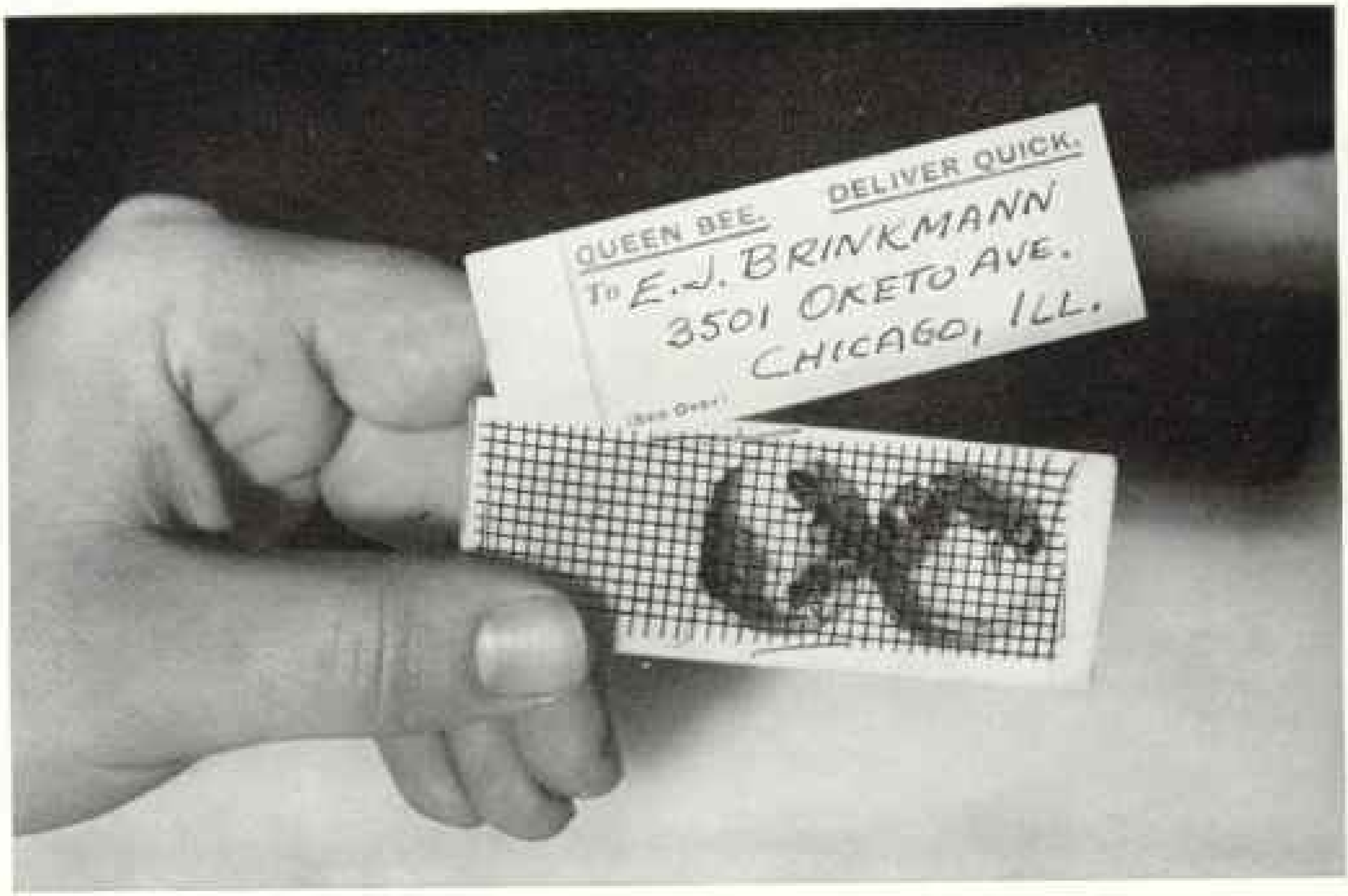
With 1,000 big silvery tanks, balloon-sized steel bottles, Hindu-templelike laboratories, steam, smoke, and flickering gas jets of colored fire, Baton Rouge at night looks like a cross between a world's fair and Vesuvius in eruption.

Here bubbles and sputters one of the world's mightiest oil refineries, flanked by equally mysterious infernos of other companies' chemical works. Petroleum research done here profoundly affects the destiny of nations. Here was the country's first full-scale plant to produce Buna-N, a specialty-type synthetic rubber, from petroleum.

When Standard Oil Company of New Jersey built its pioneer plant here in 1909, this was just a quiet State capital, disturbed only by political harangue, college-student pranks, water-front fights, mule brays, and the rattle of farm wagons in town for Saturday's market.

It's still the capital, but now nearly all people live, in one way or another, off the oil business, and its population has multiplied several times. Today Standard Oil alone works 9,100 people and processes 10,000,000 tons of crude petroleum a year (Plates VI and VII).

Crude oil is first turned into tars and distillates. Then these go into a long line of products from butane and aviation gasoline, fuel and Diesel oils, to lubricants, paraffin wax, and asphalt for roads, roofs, and paints.



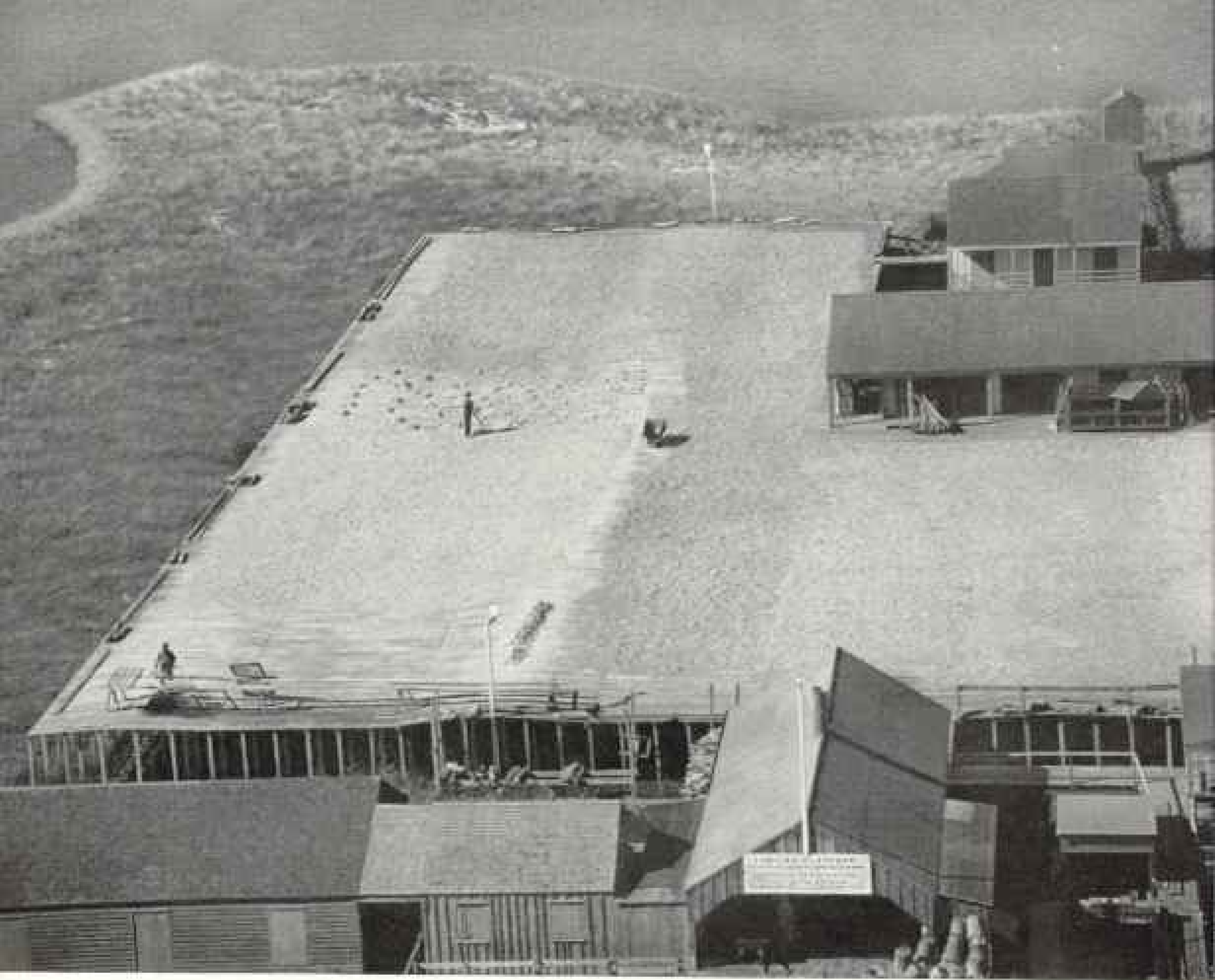
Order a Queen Bee by Mail and She Comes Packed Like This

The queen, with attendant worker bees, is placed in this cage, which contains fondant for food en route. She's shipped north from the U. S. Department of Agriculture's Southern States Bee Culture Laboratory near Baton Rouge, which is conducted in cooperation with the University of Louisiana.



Massive Bronze Doors Lead into the State Capitol's Senate Chamber

Bas-relief panels depict the preparation of the Civil Code of Louisiana by Edward Livingston, Louis C. Moreau-Lislet, and Pierre Derbigny in 1825. The Code was based on one promulgated by Napoleon in 1804.



This Is One of Many Shrimp-drying Platforms Which Have Been Built on Piles over Mud Bars Around Barataria Bay

Louisiana shrimp form the basis of one of America's most interesting sea-food trades. Here the smaller shrimp are boiled in brine and then dried in the sun, for shipment to Oriental consumers. In the frame houses about the platforms lives a strange, polyglot crew of shrimp-working Cajuns, Chinese, and Filipinos. French cooks of New Orleans are famous for their shrimp dishes.

Other components are piped to plants making rubber, ether, ethylene, and alcohols.

In history's most shattering war this refinery was one of the largest suppliers of aviation gasoline to Uncle Sam and his allies. Other huge factories grown up beside it include Solvay Process Company, Ethyl Corporation, Permanente Metals Corporation, General Chemical Company, Consolidated Chemical Industries, Inc., Copolymer Corporation, and the huge power plant of Gulf States Utilities Company.

From here, again, Louisiana products flow out by rail, barge, and ocean steamer into the vortex of world trade.

Scientists Saved This Sugar Bowl

From the sky-tickling top of the State Capitol tower in Baton Rouge you look west, across Old Man River, to see cane fields and tall smokestacks of sugar mills.

This "Louisiana Sugar Bowl" is a lovely land of sunshine, peaceful bayous, fine old homes, and the white cottages of French-speaking field workers set among oaks bearded with Spanish moss.

Iberville, in 1700, planted sugar cane in what is now New Orleans, and here man first learned to make granulated sugar. At one time sugar making was the State's richest industry. It earned fortunes for leisure-loving, high-living planters of that golden age.

A few decades ago, cane disease laid the planters low; many mills closed. Then plant pathologists rescued the industry. They brought in vigorous disease-resisting kinds of cane. Now sugar men are happy again, with a crop worth $44,000,000 in 1946.

On the Mississippi I saw barges loaded with what looked like heaps of gold dust. It was sulphur, which helps make this Gulf coast a world source of heavy chemicals.



Crooked as the Orinoco Delta, the Calcasieu River Cuts Odd Forest Patterns Around Busy Lake Charles

In the background lies the business district of the city of Lake Charles. A busy ship channel, dug south, ties this industrial center to the Gulf. Once one of America's leading sawmill centers, Lake Charles now is a site of oil, gas, chemical, and other industries and enjoys heavy sea trade. Scores of vessels tied to the riverbank are Navy landing craft of World War II; many are being sold for use in Latin America, in Gulf trade, or on the Intracoastal Waterway (page 712).

Use of sulphur is old; 2,000 years before Christ it went to bleach linen; with its aid Chinese invented gunpowder. At Grande Ecaille, downriver from New Orleans, Freeport Sulphur Company mines 2,400 tons a day. Its "mines" are deep holes, like oil wells. Down into them, through concentric pipes, hot water and compressed air are forced, and up comes molten sulphur to work at 32,000 different kinds of jobs (Plate X).*

Airplanes Thick as Pelicans

Airplanes make for New Orleans like homing pigeons. One maid of honor at a Mardi Gras ball was a Mexican lass from Yucatán. She flew up here, crown, golden slippers, and all, to enjoy the American dance.

Latin Americans often fly to New Orleans to shop. Many a trousseau is bought in Canal Street and flown back next day for a wedding in Mexico, Guatemala, or Panama. Moisant International Airport is only a few minutes' ride from Canal Street, Champs Élysées of New Orleans, where perfume-shop salesmen squirt costly scents on the pavement so their fragrance will attract customers.

Air service lifts travel horizons for people in the Mississippi Basin. It's only a few hours' flight from here to Central American countries. Peru, Chile, and Argentina likewise are linked to New Orleans via Pan American and Pan American-Grace Airways, with 20- to 30-hour service. Air freight and express grow fast.

A Noah's Ark that Flies

A cow jumped over the moon in *Mother Goose*. Horses fly in Louisiana, in an aerial Noah's Ark.

* See "How We Use the Gulf of Mexico," by Frederick Simpich, NATIONAL GEOGRAPHIC MAGAZINE, January, 1944.

We photographed one sad-eyed jackass at the open door of a Managua-bound Pan American plane, taking one last look at Louisiana and braying a lachrymose farewell.

On another day from a flying ark came the bleats, bawls, barks, brays, grunts, and cackles of sheep, goats, heifers, bulls, jacks and jennets, hens, gamecocks, and three Airedale pups.

"I fill the air with a steady stream of southbound animals," said Oscar R. Whilden, Louisiana livestock exporter. "I also ship thousands of work mules by steamer to Cuba, Jamaica, Puerto Rico, Trinidad, and South America.

"It's quicker, and mortality insurance costs less, to fly valuable race and saddle horses, pedigreed cattle, sheep, and poultry. I build pens and stalls on the plane's floor . . . No, I serve no meals aloft, and need no hostess!" (Page 711.)

Odd Items Figure in State Exports

In south Louisiana the town of Rayne, on Highway 90, busy rice place, also traps big frogs. One weighed three pounds. Many are shipped alive for aquariums or for biological work. Half a million have been sold in one season.

Here the Japs once bought live frogs, for founding their frog-leg trade in the Far East. Now men here tan frog skins for making belts, purses, and hatbands.

Every pipe lover wants perique in his smoking mixture. The whole world's supply comes from some 400 acres in St. James Parish, west of New Orleans. "Type 72," tobacco blenders call it; England, Canada, the Netherlands, and Belgium are the chief buyers.

Nearly all the shallots eaten in America come from a region within a 100-mile radius of New Orleans (Plate XIII). From the orange belt in Plaquemines Parish comes also part of the Nation's supply of Creole Easter lily bulbs.

Salt deposits were worked by Indians before De Soto came. Three of the world's big mines are found in the "Five Islands" region near New Iberia. Millions of tons have been shipped (Plate VIII). Jefferson Island, in this group, was owned by Joe Jefferson, American actor who played "Rip Van Winkle."

Spanish moss, picked from trees and cured, is used in mattresses and in upholstering furniture and motorcar seats (page 706).

"When Andrew J. Higgins dynamited stumps from swamps on the Industrial Canal, near New Orleans, to build a boat factory, spectators saw alligators blown high into the air," said Clarke Salmon, Sr., former editor of the *Item*.

Alligator skins, 25,000 to 33,000 a year, are shipped from this State. Some gators are shot at night with aid of flashlights; some are caught with meat-baited lines. More daring hunters catch them with their bare hands!

Negroes sometimes eat alligator tails. Near Buras I talked with a woman who said her menfolks bait alligator hooks with young cranes and herons.

We long depended on China for tung oil, made from tung tree nuts. It's used by paint and varnish makers. Groves of these precious trees now grow from Texas to Florida, especially in Mississippi and Louisiana. Today some 5,000 growers pick 47,300 tons of nuts a year, yielding close to 20,000,000 pounds of oil worth many millions.

Mountains of freight are loaded or unloaded the year round at this State's deep-water ports—New Orleans, Baton Rouge, and Lake Charles.

Alcoa, Delta, Grace, Lykes, United Fruit, Waterman, and dozens of other lines help handle overseas trade. On miles of docks at New Orleans and Lake Charles you see endless export items, from live mules to secondhand Mardi Gras floats, the latter for South American fiesta use.

Goods for abroad include flour, lard, lumber, automobiles, trucks, farm implements, pleasure boats, oil products and oil-field machinery, cement, drugs, surgical and surveying instruments, tools, builders' hardware, shoes, typewriters, barbed wire, furniture, beer, bottles, and canned goods.

How Ships Link Louisiana with Other States and the Seven Seas

"Except New York, this is the only American port that offers a well-balanced two-way cargo," says Theodore Brent, President of the Delta Line (Mississippi Shipping Company, Inc.).

"Growth of our imports is impressive. They include raw sugar, green coffee, chicory, cocoa beans, mahogany logs, jute, sisal, chicle, molasses, Philippine copra and hemp, oils, fats, crude rubber and latex, hides, skins, tapioca, rum, coconuts, and, of course, bananas at the rate of a million stems a week."

Mr. Brent grew up in the Midwest and spent years handling traffic on inland waterways.

"You have only to look at all the factories from Pittsburgh to Kansas City," he says, "and then note how big industries are rising in the South—as in Birmingham, Memphis,



Kodachrome by J. Baylor Roberts

World Traders Confer at New Orleans' International House

Here agents of American importers and exporters meet with overseas buyers and sellers. For their use, bilingual stenographers, trade advisers, and an up-to-the-minute trade reference library are provided.



X

Ektachrome by J. Baylor Roberts

That Yellow Cliff Is Solid Sulphur; the Power Shovel Loads It on a Belt Conveyor for Transfer to River Barges

Hot water and steam, forced down deep holes, bring sulphur to the surface at Freeport Sulphur Company's Grande Ecaille deposits, downriver from New Orleans.



Ektachrome by J. Baylor Roberts

This State Fire Fighter, with Radio-equipped Jeep and Fog Nozzle, Shows How Incipient Forest Fires Are Checked or Extinguished



Kodachrome by J. Baylor Roberts

A Wildfowl Display in the State Exhibit Building, Shreveport, Interests Hunters

H. B. Wright, Curator, brightens up a mounted duck. Thirty-six kinds of ducks and geese appear in this habitat, typical of a marsh scene on the Mississippi River flyway.



This Store on Wheels Saves Housewives Trips to Market

It plies Rue Lafourche, that 80-mile street between Donaldsonville and Golden Meadow. Full of general merchandise, the vehicle grew up from the old-time peddlers' boats which plied Bayou Lafourche.



Ektachromes by J. Baylor Roberts

Fragrant Small Onions Are Washed and Bunched for Shipment to Faraway Tables

Ninety-five percent or more of all U. S. shallots come from within a 100-mile radius of New Orleans to find their way into domestic and Canadian salad bowls. These grew on a Bayou Lafourche farm at Raceland.



Kodachrome by J. Baylor Roberts

No Crack Ocean Liner's Swank Passengers Have More Fun than School Kids Riding an Old-time Ferry on Bayou Lafourche

With some 4,000 miles of navigable inland waters, Louisiana uses vast fleets of ferries, skiffs, launches, tugs, barges, sailboats, and pirogues.



XV

Cypress Logs Are Chained Together near Bayou Teche for Towing to a Sawmill

In Louisiana grow more than 100 kinds of hardwood, and 720 industries in the State depend on trees for their raw products.



Kodachrome by J. Baylor Roberts

A School Boat, Running Where a Bus Couldn't, Hauls Pupils to Classes at Gibson

Like waterways in the German Spree Wald, the creeks, canals, and bayous of southern Louisiana form busy water streets for the easy movement of goods and passengers.



Kodachrome by J. Baylor Roberts

"Make Mine Tabasco!"—Famous Louisiana Hot Sauce Comes from Avery Island

This is a step in the three-year-long process of curing McIlhenny Tabasco Sauce. Made from a family recipe, it was first marketed in 1868.

Little Rock, Shreveport, Baton Rouge, Lake Charles, and over in Texas—to see how big our stream of goods moving down to Gulf ports is becoming.

"To help haul such goods to overseas markets, Delta has recently started a new line to serve some 14 ports in West Africa."

Steel, iron pipe, and oil machinery form a big part of down-the-Ohio-and-Mississippi cargoes. We heard that big loads of these things would soon move from here to the Red Sea and Persian Gulf for Arabian oil fields.

Mountains of Nitrates and Bauxite

From Chile this year Grace freighters are bringing mountains of nitrates to Lake Charles for use in fertilizing cotton fields.

Alcoa ships bring bauxite from Surinam for making aluminum.

"Bulk of our outbound traffic originates in the mid-continent area," says W. H. Trauth, Alcoa's Southern Division manager, "in that vast industrial empire that lies between the Alleghenies and the Rocky Mountains."

Besides its freighters, Alcoa operates the liners *Alcoa Clipper* and *Alcoa Corsair*, offering fast passenger and freight service to Jamaica, Netherlands West Indies, Venezuela, Trinidad, and Barbados.

Delta Line has just launched three new liners, *Del Mar*, *Del Sud*, and *Del Norte*, whose cabins resemble hotel suites. I was invited on *Del Sud's* shakedown cruise to Habana. I declined, to stay in Louisiana and interview certain men to get this story. After the *Del Sud* had sailed, I found that nearly all the men I wanted to see were on that very cruise!

"We got our start shipping live cattle to Cuba in 1880," said Solon D. Turman, vice president of Lykes Bros. Steamship Company, Inc.

"In the Spanish-American War one of my kinsmen was in charge of the transports that moved General Shafter's army, mules and all, to Cuba. Today we own 50 new ships, charter 82 more from the U. S. Maritime Commission, and traffic with many Latin American ports and with the United Kingdom, Europe, Africa, and the Far East."

From Mules to Boa Constrictors

As in the beginning, this globe-girdling line is still popular with livestock shippers. Its steamer *Scottsburg*, on four trips, took 3,150 mules to Turkey, and lost only 11. They died of distemper.

Ortello, that famous $90,000 Italian race horse, came to America on a Lykes ship, the *Highflyer*. When our troops landed in Italy, Mussolini sent this horse deep into Germany for safekeeping.

Other odd "livestock" rides these ships. From Colombia came squirming boa constrictors for the W. A. King snake farm at Brownsville, Texas. On that voyage, after a "blessed event," 14 baby boas were given the freedom of the sunny deck!

To handle traffic faster, New Orleans is working for a tidewater ship channel. This will be a short cut across the swampy muskrat flats from the city down to the Gulf, a faster route than winding Mississippi passes.

Already, too, New Orleans has set up a smuggler-proof "free port" foreign trade zone, in old Hanseatic League style. Here goods from abroad may be unloaded for reshipment to other foreign ports without paying American customs duties.

Clearinghouse for International Trade

To become the capital of U. S.-Latin American trade is the city's ambition. Her International House, first of its kind in the States, is a part of that plan.

This global office-club, with all its interpreters, bilingual stenographers, and trade and banking advisers, gives American and foreign businessmen a quiet, convenient place to meet, talk, and dine (Plate IX). Its telephones echo with foreign tongues. Lunchtime in its lobbies is like a noonday at the Tower of Babel must have been.

Daily guest-book signatures may show fifteen or more nations represented by buyers and sellers, scholars and tourists visiting this unique organization.

Concrete results? A Kansas City dealer asked, "Where can I sell radios abroad?" They told him, and that same day he found an overseas customer for 3,000.

An Alabama farm-implement dealer asked for help. He got an order from Venezuela for carts, trucks, and trailers. A Dallas firm that exports building materials set up an export office here, on advice and aid from International House, and now sells goods to fifty different firms in Latin America. The list is long.

To this growing trade stream Louisiana and all Dixie add their share.

"Rise of new industries, and more machines on farms, swiftly change the whole pattern of southern life," says former Governor Sam H. Jones, noted authority on Louisiana economics.

"Eli Whitney's cotton gin put whole armies at work in fields. Now the mechanical cotton picker is releasing them again.

"In forestry work, instead of setting out



Freight Trains Board a New Orleans Ship for an Ocean Trip

Seatrain New Jersey is taking on 93 loaded tank and freight cars. From Belle Chasse, near Orleans, Seatrain Lines, Inc., operates nonbreak bulk service to Habana, Cuba, and to Edgewater, New Jersey. It also operates between Texas City, Texas, and New York. Each Seatrain has four decks with a mile of track for handling a capacity load of 100 freight cars.

young trees by hand, we use a machine that plants 12,000 in eight hours. Tractors, bulldozers, cane cutters, and flame-throwing weeders all operate now to set free thousands of former field hands. For this, thank God; it means the passing of the underprivileged tenant farmer and sharecropper into more lucrative fields.

Machines Create Employment Problem

"At the same time, gainful new kinds of jobs must be found for all these men now being thrown out of farm work by these labor-saving machines. They don't fit into jobs that have to do with steamships, banks, salesmanship, and foreign trade.

"Many of them, we hope, can get into dairy farming, into poultry raising and the cattle and meat-packing business, to help our State more nearly feed itself. Among all the chickens that will be eaten in New Orleans tonight, probably not a single one was hatched in Louisiana.

"We crow loudly about all our new factories. But, to find jobs for all these thousands that are being liberated from farms by the advent of newfangled machines, we need still more factories, to process a bigger share of the raw materials that come from our farms and forests.

"We need more factories than the many we already have, such as rubber, chemical, fertilizer, paper, plywood, meat-packing and petroleum-refining plants, and the swiftly multiplying plants that can and dehydrate sweet potatoes and freeze strawberries and vegetables and sea foods.

"It's true we've come a long way since early French traded glass beads to the Indians. But we've still got a long way to go, to make our State itself as busy and prosperous as its world-trading seaports."

An Archeologist Looks at Palestine

By Nelson Glueck*

PALESTINE is the name left by the Philistines to the land of Canaan.

Along its southern coastal plain and the shore of the Mediterranean, they established colonies and cities.

In Ashkelon, or Ascalon,† and Ashdod (Isdud) and Ekron ('Aqir), in Gaza and Gath, this sea people from Greek islands struck deep roots and flourished.

With their chariots of iron, as frightening then as the first tanks were in modern warfare, and with their other advanced metal equipment, the Philistines brought fear upon the land.

Eastward and northward as far as Beth-shan (Beisan) they surged, to the injury of Israel and the death of King Saul and his sons.

To heap insult upon their enemy, they impaled the royal bodies on the walls of this fortress flanking the approaches to the Jordan Valley.

Strife Since Before Goliath's Time

The Philistine giant, Goliath of Gath, clad in a glistening suit of armor, became a symbol of the awe these invaders inspired.

Palestine then became again what it had previously been, and what it has remained down to our very day, a cockpit of unending conflict.

The struggle between those who held the keys to its gates and those who sought to enter or re-enter its portals has never subsided.

The contenders have been many, but the prize has always remained the same. The homeless and the hungry have sought the haven of its boundaries. Desert dwellers and the armies of expanding empires have striven and perished for the sake of the plenty and power that seizure of its soil has promised.

The patrimony of Palestine has never spelled peace for long.

And out of the endless upheavals in which nations of the past have spent their substance and themselves in sorry rivalries, nought has survived of the glitter of glory or the panoply of power save the rubble of ruined cities piled hill-high above each other.

These ancient *tells* are monuments to the hurts and hatreds and madness of men.

Even more than men, with their appetites and ambitions, have ideas collided in Palestine. In this crossroads of continents and arena of empires, only the ideas of God and good as first revealed to Israel have proved to be imperishable.

The only thing permanent which has issued from the travail of Palestine is the increased understanding of moral imperatives.

The developing appreciation of God as we know Him today has been its only lasting achievement.

On the Beaches of Ascalon Today

All this was in the back of my mind when I sauntered recently along the beaches of Ascalon and looked at the jumble of ruins reaching down to the shore of the Mediterranean (map, page 742).

Pillars, bricks, and pottery of many widely separated periods litter the landscape.

At the time of Christ, Ascalon was a rich and riotous Roman city, with Greek culture and a sophisticated population of pagans and Jews.

Herod the Great was born there, and it was the residence of his sister, Salome.

He heaped gifts upon Ascalon, as was also his fashion elsewhere, adorning it with fairest fountains, baths, temples, and harbor works constructed in Greek style.

After experiencing various disasters and restorations, from Philistine times onward, Ascalon was lastingly demolished, about seven centuries ago, by the great Moslem warrior, Sultan Baybars.

Since then, sand dunes indifferent to antiquity have drifted over columns, which stick out of the dunes like cannon from a foundered ship. Great blocks of masonry have rolled down the side of the ridge on which the town was built and come to rest at the very edge of the sea or lie beneath the clear waters near the shore (page 746).

In the classical temples of Herodian Ascalon, even as in the earlier Philistine sanctuaries there, primitive and passionate practices of fertility cults prevailed.

A Mermaid Goddess

The historian, Herodotus, informs us of the special place occupied in the pagan pantheon there by Derceto, the fecund goddess with the face of a woman and the body of a fish.

I found a similar goddess in the Nabataean temple of Khirbet et Tannûr, in Trans-Jordan, when excavating there on behalf of the Ameri-

* Dr. Glueck, now President of Hebrew Union College, Cincinnati, Ohio, was Director of the American School of Oriental Research, Jerusalem, 1932-3; 1936-40; 1942-47.

† The Ashkelon of Old Testament times later became Ascalon. The later and more familiar spelling is used throughout this article.



Staff Photographer Maynard Owen Williams

Under a Benign Mediterranean Sun, Tel Avivians Head for Relaxation at the Seashore

Palestine's modern, all-Jewish city, once a stretch of sand dunes, boasts an excellent beach which has become the country's most popular resort. Here pleasure-seekers pass through London Square, a section of the seaside promenade named to commemorate the British capital's heroism under World War II bombardment. On the promontory in the distance stands Jaffa, the Joppa of Biblical times.

can School of Oriental Research, Jerusalem* (page 746).

The Nabataean trade route, as a matter of fact, led from Trans-Jordan across southern Palestine to Gaza and Ascalon. From these places the exotic goods of Arabia were exported to Egypt, Rhodes, Italy, and elsewhere.

Of Ascalon's Glory an Onion Survives

Gone is the glory of Ascalon! And who could guess that the name of the lowly scallion, shallot, or eschalot, as it is variously known, is derived from that of once-proud Ascalon, or Ashkelon, of the Philistines and Herodians?

Bite into the common onion of Ascalon and bewail the fate of frail mortals and their handiwork!

On the seashore near Gaza, which is twelve miles south of its sister-city of Ascalon, we saw Arab fishermen mending their nets and calking their boats. We watched some of their boats approaching the shore, sails furled and men rowing.

In vessels probably not much larger than these, the Philistines once reached these very sands.

Here, as in other parts of the coast, they seized and maintained a foothold and commenced the attempt to subjugate all of Canaan.

For long they bested the hosts of Israel. They beat a path as far as Beth Shemesh and planted their banners on the walls of Beth-shan, but then the tide ebbed. The might of their martial spirit and the strength of their spears alone failed to turn the fortunes of history in their favor.

Instead of blessings, the Ark of the Covenant of the God of Israel, which they had

* See "On the Trail of King Solomon's Mines," by Nelson Glueck, in the NATIONAL GEOGRAPHIC MAGAZINE, February, 1944, pages 248-249.



AP from Press Ass'n

Water Diverted from the Spring of Dan Helps Make the Desert Bloom

A life-giving stream is led from one of the Jordan's sources to a Jewish irrigation project several miles away. Besides nourishing the soil, such efforts often drain swamps and eliminate malaria problems.

captured, brought them plagues. With awe they beheld how kine, separated from their young, brought back the Ark to Judean territory at the boundaries of Beth Shemesh (I Samuel 6:7-16).

Step by step the Philistines were forced back, till swallowed in the limbo of history whence they had so martially emerged. The imprint of their culture did not survive the fall of the Pentapolis of their seacoast cities.

The name Palestine, a modernization of Philistia, alone persists as a perpetual reminder both of the promise they had brought with them out of the west and the evanescence of all strength based on arms.

On the beach of Gaza I saw a little Arab boy load his donkey and camel with hampers of sand for building purposes in the modern town. An archeologist can hardly refrain from wondering what its ultimate end will be, for these sands cover much of the stuff and story of history.

From Dan to Beersheba one is constantly confronted with the dovetailing of the vibrant past with the brittle present.

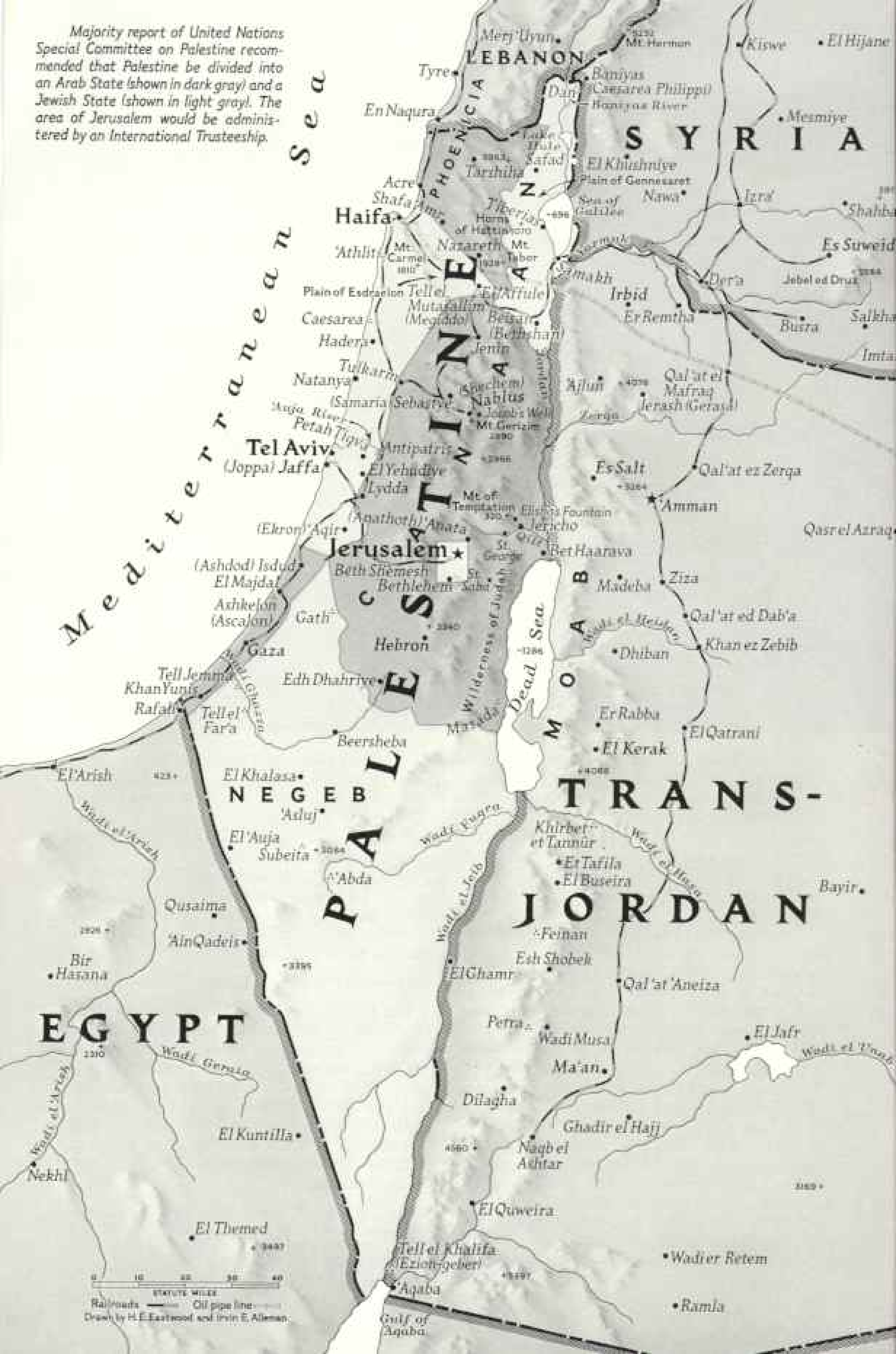
At the somnolent little town of Beersheba, on the border between the Desert and the Sown, water is still pumped from wells, one of which may possibly have been dug in its original form by Abraham.

Jewish Pioneers Transform Palestine

The largely uninhabited plain and desert of the Negeb, to the south of Beersheba, is being penetrated by Jewish pioneers. They are heroically planting colonies in its painful emptiness. In most of this area, sedentary civilization has never hitherto established itself.

Already these pilgrims, who grow trees as affirmations of their prayers, have achieved miracles of transformation in this as in other parts of Palestine.*

* See, in the NATIONAL GEOGRAPHIC MAGAZINE, "Palestine Today," by Francis Chase, Jr., October, 1946; and "American Fighters Visit Bible Lands," by Maynard Owen Williams, March, 1946.



Majority report of United Nations Special Committee on Palestine recommended that Palestine be divided into an Arab State (shown in dark gray) and a Jewish State (shown in light gray). The area of Jerusalem would be administered by an International Trusteeship.

Runoff rain waters which used to erode the land have been caught and compelled to enrich it. Green crops are thriving where nothing was ever cultivated before. Wastelands are being restored to productive vigor.

And if ever the present political imponderables can be overcome and the dream of leading surplus waters from the sources of the Jordan by canal to the Negeb can be realized, the desert there will become a fruitful fairyland. The scheme is certainly physically feasible.*

The example of Bet Haarava, established in the desolate salt wastes at the north end of the Dead Sea, a short distance north of the great salt pans of Palestine Potash, Ltd., has demonstrated how the apparently impossible can be accomplished.

Some of the water of the Jordan River, still sweet even when approaching the point of its disappearance into the turbid depths of the Dead Sea, is diverted over tracts of salt-sodden soil in the lowest reaches of the Jordan Valley (page 741).



Oriental Institute, University of Chicago

Megiddo's Ruins Are Signposts to History of the Remote Past

In this tomb lie skeletons of an adult and child of the Bronze Age, which began about 3000 B. C. Between them are the bones of an animal—a lamb or a kid. The tomb also contained broken vessels, the traces of man's early efforts to make pottery.

This process is repeated again and again till a sufficient quantity of minerals has been leached out and the sweetened soil can sustain plant life.

On the basis of such toil, the young Jewish settlers of Bet Haarava are planting and harvesting lush crops, where previously no land was tilled or settlement of any kind maintained.

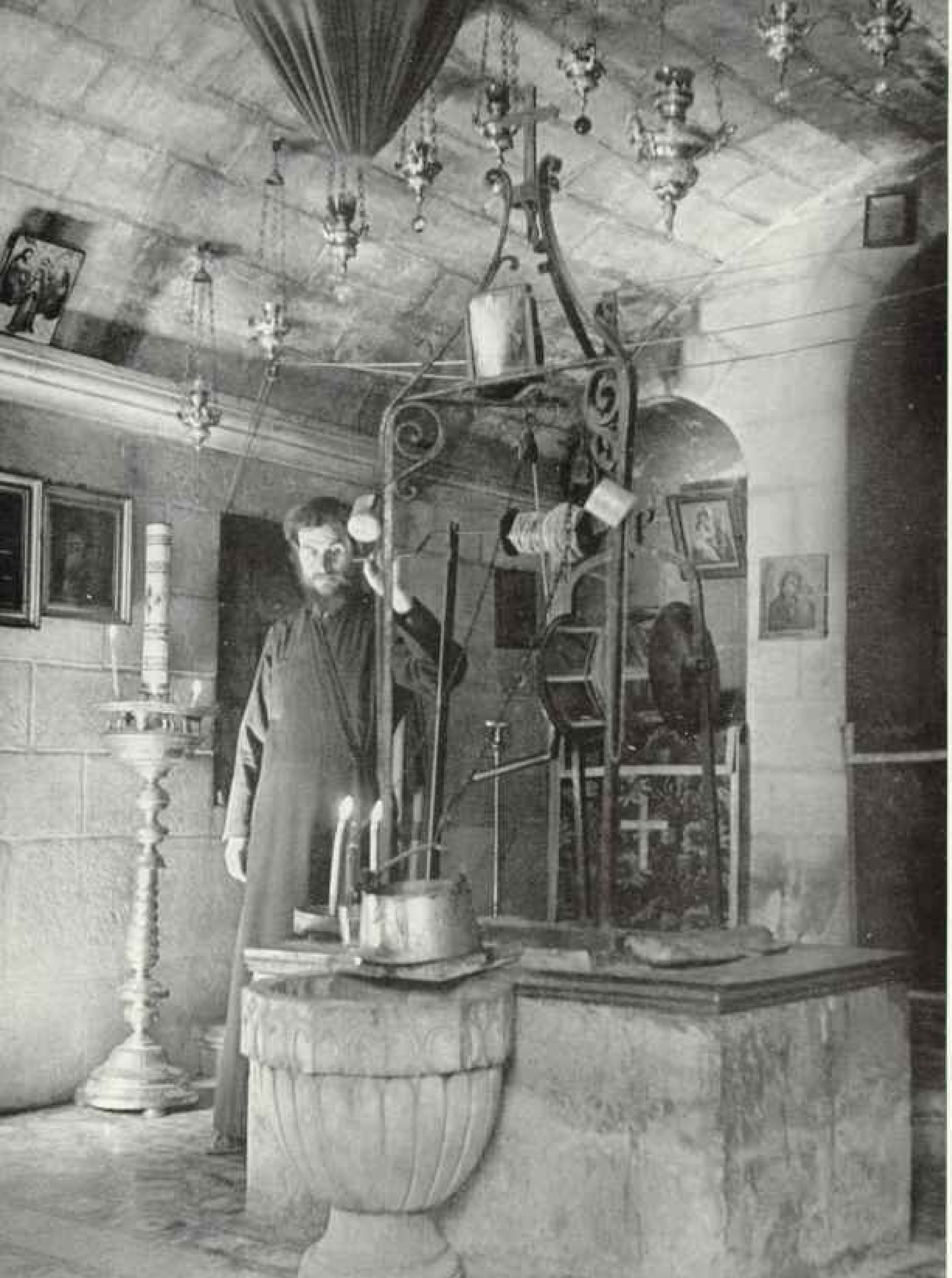
Glorious orange groves, with ownership almost equally divided between Arabs and Jews, delight the eye and appetite along much of the coast of Palestine. The luscious "Jaffas" (Shamontis) and other types of oranges form one of the chief exports of the country.

Oranges for Sale—at Damascus Gate

In the orange season, which lasts almost six months, I love to walk from my house at the American School of Oriental Research, Jerusalem, to the near-by Damascus Gate, and purchase oranges from the big piles for sale at the opposite corner.

"Orange ships" anchor in the roadsteads of the adjacent Arab and Jewish cities of Jaffa and Tel Aviv and are loaded with oranges for Europe.

* See "The Geography of the Jordan," by Nelson Glueck, NATIONAL GEOGRAPHIC MAGAZINE, December, 1944.



© Riskin

Near Nablus, a Monk Lowers a Candle to Show the Depth of Jacob's Well

Here, tradition tells, Jesus met the Woman of Samaria. A Greek Orthodox church shelters the well, midway between Jerusalem and Nazareth.

From Haifa larger quantities are exported. Haifa harbor, equipped with extensive artificial breakwaters, is the largest and best along the entire coast of Palestine.

Because of the conspicuous lack of natural harbors, it is no wonder that in the past Palestine failed to develop as a maritime power, that role being assumed by Phoenicia to the north.

Haifa is a beautifully modern city, whose residential sections climb up to and over the top of Mount Carmel.

Pipe Lines Bring Oil to Haifa

A great pipe line brings oil from Iraq to Haifa, where much of it is refined before being pumped into tankers for shipment to England. A parallel pipe line is being laid to bring much larger quantities of oil from the eastern deserts.

With its pivotal importance for oil and industry, for commerce and imperial strategy, Haifa is bound to grow mightily, unless political calamities retard its development.

Haifa is a cultured and conglomerate city. Huge retorts of a gasoline refining plant vie for attention, for instance, with an exquisite Bahai garden.

The cooperation of Jews and Arabs in Haifa is an earnest of conditions which could exist in all of Palestine and make unnecessary the partition of this tiny fragment of a country.

The view from Mount Carmel over the white limestone city and the deep-blue waters of the Mediterranean has always made me want to own a home there.

While rock was being blasted for the breakwaters in Haifa harbor, prehistoric caves were discovered on the western slope of Mount Carmel.

In these caves were found skeletons of Palestine's earliest known humans, of a hitherto-unknown type, famous now as the Palestine Man. He lived 50,000 or more years ago.

Not far away, on the shore of the Mediterranean, are the massive ruins of the Crusader castle of 'Athlit. It was built, completed, and destroyed during the 13th century after Christ. About eight miles south of Haifa it stands on a promontory projecting into the sea, with wonderful beaches on three sides.

Among the ruins, composed of remnants of massive walls, huge subterranean vaults, and great ruined towers, a few Arab squatters live in squalid huts.

Near by is a prison camp and an immigrants' reception center. A small Jewish village, too, is located in this area.

Less than 15 miles south of 'Athlit lie the ruins of the great Roman and Crusader city of Caesarea, built originally by Herod the Great in 25 B. C. as the most important port of Palestine.

Another Caesarea was built by Herod Philip, a son of Herod the Great, at the Baniyas source of the Jordan River. This city was called Caesarea Philippi (Baniyas) to distinguish it from the other, which became known as Caesarea Maritima.

Like the Crusaders after them, and the Egyptians and others before them, the Jews under Herod the Great and his sons fashioned cities as Nature fashioned mountains. They were built to last forever, and have indeed survived for millenniums.

The best example of what such cities looked like is furnished by the remains of the Roman city of Gerasa (Jerash) in Trans-Jordan, with its theaters, temples, forum, stadium, and triumphal gateway.

In this cast was Caesarea Maritima created. Of great beauty, size, and importance in its beginnings, it was a city also of massive dimensions and crucial strategic value at its end in the Crusader period. It was destroyed by the Moslems A. D. 1291.

Every town that Herod the Great touched he transformed into the shining semblance of the Hellenistic-Roman cities he knew and loved outside the domain of his own dour country.

Over the great hill site of Samaria (Sebastye), where Omri had built the capital of Israel, Herod the Great, with the magic wand of his energy, wealth, and power, called into being a magnificent metropolis.

Herod called the city Sebaste. That was the Greek equivalent of Augustus, the emperor under whose authority he reigned at the time. He had named Caesarea in honor of that same Caesar Augustus.

Holy City Beyond Compare

Herod's passion for building resulted in his changing the very aspect of Jerusalem. Under his hands it became a majestic Greco-Roman adornment to his dominion.

His crowning achievement there was the construction of the third Temple. Architecturally, it could easily have served as a sanctuary for pagan gods. The golden eagle he had set above its great gate served to accentuate that similarity.

This temple was not, however, actually completed until A. D. 63-64. It was destroyed by the Romans six years later, when they succeeded in putting down the fierce Jewish rebellion that flamed up against them.

The temple was never rebuilt, but the massive stones of the walls of the temple area can still be seen. They appear in the foundations



Nelson Glueck

Strangely Eroded Blocks of Ancient Masonry Stud Ascalon's Sands, Where the Philistines Swarmed Ashore

These chunks have tumbled down from a cliff (right) where stands the ancient town whose name lives on in the scallion, or onion (page 740).



From Nelson Glueck

Centuries Before Christ, Nabataeans Worshiped in Trans-Jordan's Temple of Khirbet et Tannûr

Digging in these ruins, the author found the stone head of a goddess adorned on either side by fish, the symbol of fertility.



Department of Antiquities, Government of Palestine

Biblical History Comes Alive in Jerusalem's Tomb-strewn Kidron Valley

From the Mount of Olives (background), Jesus bade Peter and John arrange for the Last Supper. Countless graves cover the slope. The "Tomb of Absalom" (left) once was believed to contain the grave of David's son. At right are the "Tomb of St. James" and the pyramidal "Tomb of Zachariah."

of the 16th-century wall, which at present surrounds the Old City of Jerusalem.

> If I forget thee, O Jerusalem, let my right hand forget her skill. Let my tongue cleave to the roof of my mouth, if I remember thee not, if I prefer not Jerusalem above my chief joy (Psalm 137: 5, 6).

City of infinite beauty, built in antiquity and ageless, Jerusalem is without compare. It combines the gleam and glare of the new with the patina and poise of the past, and is full of contrast and color.

Exposed to the perplexities and perils of a turbulent and tragic present, it has endured and become strong with the experiences of immortal millenniums.

Still the chief seat of government in Palestine as it already was in the days of David of old, Jerusalem remains the pivotal place of the Near East and the capital of the conscience of much of mankind.

The grim barriers of barbed wire which block its paths today, the bullets and bombs evoked by passion and despair, can still not destroy the hopes for peace in Zion, whence the word of God went forth.

Stand on the summit of Mount Scopus and see the extraordinary city below, as fair a sight as can be seen on the face of the earth.

Or turn eastward from your point of vantage and let your gaze sweep over the many-hued wastes of the Wilderness of Judah, pause over the deep blue of the lowest sea, known as the Salt, or Dead, Sea, and come to rest on the purplish mountains of Moab, where Moses once stood and looked westward, never to cross over to the land of his longing.

Amazing Mosaic of Old and New

Now descend and wander through the Suq of the Old City, with its bedlam of sounds and full-bodied smells, where donkeys and sometimes camels contest with you for footing in the twisting and aromatic alleys.

In the modern sections of the city, too, you may be bewildered by a babel of languages, with Hebrew, Arabic, and English prevailing.

Bookstores, largely Jewish, display a range of books which pays high tribute to the cultural interests of the population.

Next to a modern hotel stands a windmill, long unused. Old olive groves still grace quiet corners.

Synagogues, churches, and mosques of charm, and in part of haunting beauty, abound in this sanctuary of Judaism and Christianity, which is also one of the sacred cities of Islam.

The Wailing Wall and the Garden of Gethsemane, the Mosque of Omar and the magnificent Government (Rockefeller) Archeological Museum, the gates of the Old City and the house-studded hills of the New, the vistas of the Jordan Valley and the highlands of Trans-Jordan beyond—these and more are part of the amazing mosaic which makes up the picture of Jerusalem.

It is a city of clarity, yet of sharp contradictions. There is a tang in its atmosphere, evoked out of its background and its promise, that makes life in Jerusalem, as indeed in all of Palestine, a deeply disturbing, frequently dangerous, and yet wholly entrancing spiritual and physical adventure.

Most of the water for Jerusalem is pumped up to its 2,500-foot-high mountain position from the coastal plain. The headwaters of the 'Auja River, which flows past the north end of Tel Aviv into the Mediterranean Sea, are employed in part for this purpose.

Close by the springs which create the river, some ten miles northeast of Jaffa, is a hillock topped now by the ruins of a castle, with the green of a government tree nursery in the fields below setting off its time-softened gray. This is the site of Antipatris, built by Herod the Great in the name of his father, Antipater.

Later Crusaders and much earlier Canaanites exploited the city's strategic importance. Excavations have exposed pottery turned on a wheel and then baked in a kiln to enduring perfection almost 5,000 years ago.

Just below the modern Hebrew University and the magnificent Hadassah-Rothschild Hospital on Mount Scopus, both of which are open to people of all faiths, bask Arab villages.

Superficially, they seem unchanged by the political, cultural, and economic revolutions taking place in Palestine. Actually, they and their like are being influenced for good and ill by the impacts of Western civilization.

Starting out from Mount Scopus, we walked through the the hills of Judah for a few miles to the Arab village of 'Anata, which is probably the site of Biblical Anathoth, the birthplace of the prophet Jeremiah.

'Anata can be reached by a rickety bus today. It has a Diesel engine for its mill now. The days of grinding grain or pressing olives by hand are largely gone.

Monasteries Cling to Canyon Sides

It is no longer true, if indeed it ever was, that "East is East and West is West, and never the twain shall meet." In the oil of the East and the processes and products of the West, let alone the interchange of not easily measurable influences, there is union now. It existed long ago in the continuous cross-fertilization of endless caravans of expanding cultures.



Oriental Institute, University of Chicago

Bones and Pottery Litter a Bronze Age Tomb at Megiddo, Called "Armageddon" in Scriptural Prophecy

Here the author saw the stables of Solomon and earlier Canaanite ruins. At Megiddo the kings of the world were to come together on the day of divine wrath (Revelation 16: 16). Near there, in 1918, British troops marching into Palestine fought a decisive battle. Victorious Field Marshal Allenby subsequently became Lord Allenby of Megiddo.

Nowhere are the imperfections and temptations of the present more passionately resisted than by the Greek Orthodox monks of the monastery of St. Saba (page 750). It clings to the side of a canyon in the wilds of the Wilderness of Judah, at a point less than ten miles southeast of Jerusalem.

Established in the 5th century after Christ by St. Saba (Sabas), who was reputed to have been a wonder worker and a pinnacle of piety, the monastery suffered much during the intervening centuries. It has survived as a monument to the might of the spirit, however frail and fragile its vehicle may be.

A gaunt-faced, burning-eyed, straggly-bearded monk led us up and down the terraces and through the various buildings, which seemed to grow out of the cliff wall like a sturdy pine soaring up from a crevice in a rock.

He told us the tale of the lion Saba, popularly connected with the name of the founder, who tamed it and lived with it. We were shown the cave they shared.

A single palm tree, which may stem back through its forbears to the time of St. Saba, rises to a considerable height. Its dates are supposed to have no stones.

On the opposite side of the canyon is a solitary tower where women may rest. Within the precincts of the monastery proper, the feminine gender is taboo.

I had a long conversation with the gatekeeper, an elderly monk with courtly manners. He had been reading an Arabic manuscript written in exquisite script. It deals, he told me, with matters edifying the soul. He had a gentle face and had obviously found the quietness of mind of those who are in harmony with their ideas of God.

In Nablus, in north-central Palestine, where ancient Shechem stood, I met a Samaritan



John D. Whiting

Between Two Worlds Swings This Massive Iron Door

With a giant key, the gatekeeper opens an entrance to the old Greek Orthodox Monastery of St. Saba, in the Wilderness of Judah near Jerusalem. The ascetic inhabitants live under austere rules laid down by the Saint, who founded the monastery in the 5th century A. D.

strong and perennial stream of water issues out of the bleak earth like a shining star out of the blackness of the night.

Jericho an Emerald Oasis

Constrained in an aqueduct which cleaves a green way along the *wadi's* side, the unfailing waters rush downward to the Jordan Valley. There, as a result of their bounty, together with that of Elisha's Fountain, is generated the oasis of Jericho. Its gardens are irrigated thus into a glowing greenness that defies the grim drabness of its surroundings as life does death.

Little wonder, then, that Joshua wanted Jericho, and that Herod the Great refrained from killing Cleopatra in order to acquire its lands from her through peaceful pact.

Still another monastery nestles on the hillside below the top of the Mount of Temptation, which directly overlooks the ancient artificial mound (called a *tell* in Hebrew and Arabic) and the verdant fields of Jericho.

priest who too was poised and peaceful in his Moslem surroundings.

He and the handful of his fellows still sacrifice the Paschal lamb on Mount Gerizim and accept as valid only their version of the first five books of the Bible. Over many hundreds of years, these Samaritans have clung to the traditions of their fathers.*

Similar to the monastery of St. Saba is that of St. George, clinging perilously to the north side of the fabulously beautiful Wadi Qilt.

A short distance above the monastery, a

On this hilltop, now wall-enclosed, tradition has it that the Devil tempted Jesus with the lure of ambition.

Wherever one turns in Palestine, the past thus thrusts itself forward into the present, and predicates the promise of tomorrow.

On our way to Galilee we stopped at El 'Affule, a modern Jewish settlement and a market and communications center in the Plain of Esdraelon. A parkway bordered by palms brightens the town. In an immaculately clean little hotel we had lunch of delicious dairy products produced in the neighboring colonies.

In the center of the town are the remains of a small mound. It is a hill of ruins of

* See "Last Israelitish Blood Sacrifice: How the Vanishing Samaritans Celebrate the Passover on Sacred Mount Gerizim," by John D. Whiting, NATIONAL GEOGRAPHIC MAGAZINE, January, 1920.

predecessors of El 'Affule, each new city in its turn using the remains of the previously destroyed one for its foundations.

Stone Coffins Make Building Blocks

In the Middle Ages, on top of this tell was built a fortress. Its chief building blocks were great stone coffins stolen from a Byzantine cemetery of about the 5th century after Christ. These massive sarcophagi were placed end on end and filled with rubble to form the main courses of the fortress.

Thus, literally, the objects of one age served the needs of another. Furthermore, in the debris around the foundations of this structure we found pottery dating back almost 5,500 years to the middle of the fourth millennium B. C.

A few miles away is Tell el Mutasallim, as the Arabs call Megiddo, perhaps better known as Armageddon. The kings of the world were to come together there on the day of divine wrath (Revelation 16:16). It guards the western end of the great highway which leads from the Mediterranean coast to Mesopotamia.



Lazar Dumner from Pix

She Holds an Armful of Palestine's Future

Young Danny, licking an ice-cream cone outside a Tel Aviv milk bar, was born in the Holy Land. His mother is a pilgrim from Czechoslovakia. Their neighbors include many famous scientists, artists, and professional leaders who seek to build a Jewish homeland.

We looked at the remnants of the stables of Solomon and of the earlier Canaanite high place, excavated by the Oriental Institute of the University of Chicago.

From the vantage point of Megiddo, one can see far over the Plain of Esdraelon. Nazareth is clearly visible on its hill.

Jews and Arabs Study Agriculture

In the distance to the northeast, the hump of Mount Tabor rises high above the fertile fields at its base. Tradition localizes the Transfiguration of Jesus on its top.

The road we were taking to Tiberias passed the Kadoorie Agricultural School for Jews. This and another one for Arabs at Tulkarm were established through a bequest left for the advancement of agriculture in Palestine by Kadoorie, a Jew from Shanghai.

An Arab *fellah*, a farmer, was plowing his field in front of the school with a yoke of oxen hitched to the same type of primitive, iron-tipped plow his ancestors had used. He would yet learn modern practices, if they were demonstrably better than his own.

It was exciting to look at the Sea of Galilee from the top of the Horns of Hattin.

On this mountain's high fields, below which the blue of the lake can be seen glinting in



Lee Stoecker from Amer

A Jew-Arab Feast Symbolizes Hope of a Peaceful Palestine

Scorning knives or forks, these desert folk and a Jewish settlement watchman (center) dig into a bowl of boiled sheep and steamed rice. They celebrate the opening of a new Jewish colony near Natanya. The Arabs wear the *kaffiyeh*, a cloth headgear topped by coils of rope. A relic of Turkish rule in Palestine is the watchman's high-crowned *kalpak*.

the sun, a crucial battle was fought between the Crusaders and the soldiers of Saladin. The Christian army was annihilated, and the power of Islam prevailed in Palestine.* Christianity, however, like Judaism, could not be conquered.

In Biblical times, the mountain Hattin was probably the site of Madon, but it was occupied long before then, too. On the western bench of the raised plateau, below the wall of the massive Bronze Age tower, I found great Acheulean axes of flint, with which prehistoric men more than 100,000 years ago tilled the soil and chopped at each other.

From this site of Hattin we could look down upon the fair fields of Gennesaret, adjoining the lake. Listen to the words of Josephus, a Jewish nobleman who governed this area a little over a generation after the time of Jesus:

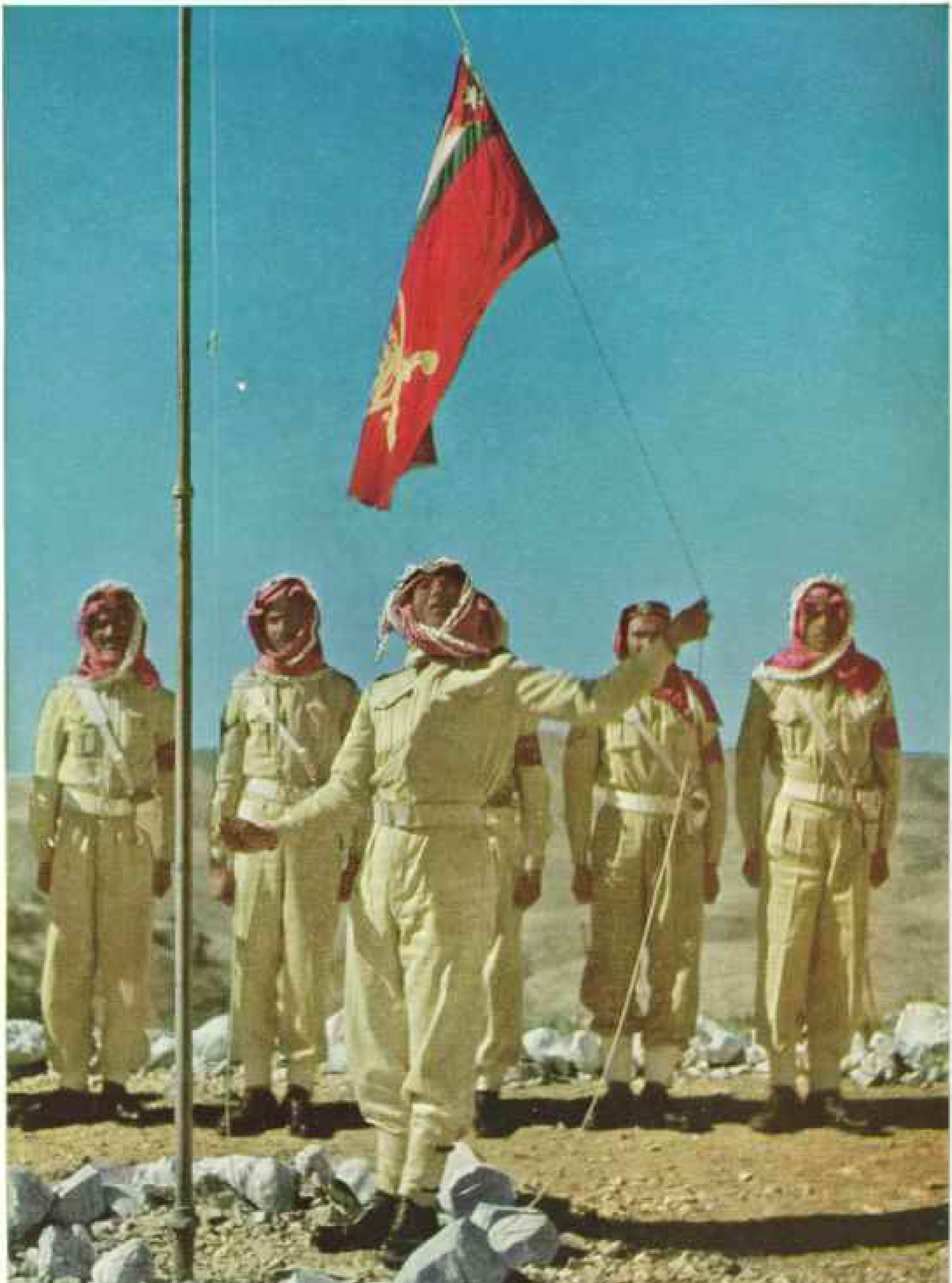
> Now this lake of Gennesaret is so called from the country adjoining to it. . . . Its waters are sweet and very agreeable for drinking. . . . The country also that lies over against this lake hath the same name of Gennesaret . . . its soil is so fruitful that all sorts of trees can grow upon it. . . . One may call this place the ambition of nature (*The Jewish War*, III:x.7, 8).

Many new white limestone buildings are enlivening the originally somber city of Tiberias, built by Herod Antipas, son of Herod the Great, on the western shore of the Sea of Galilee.

The natural beauties of this lovely lake and its luxuriant shore line are dwarfed by its religious associations, as the holy past towers above the uncertain present throughout these old-new Bible lands.†

* See, in the NATIONAL GEOGRAPHIC MAGAZINE, "Crusader Castles of the Near East," by William H. Hall, March, 1931, and "Road of the Crusaders," by Harold Lamb, December, 1933.

† For many additional articles on Bible lands, consult the "Cumulative Index to the NATIONAL GEOGRAPHIC MAGAZINE, 1899 to 1946, Inclusive."



Kodachrome by Frank Hurley

It's Dawn on the Desert, and Up Goes the Flag of the Arab Legion of Trans-Jordan

In World War II it aided Britain in Iraq and Syria, guarded routes and oil lines, and fought in North Africa.



Kodachrome by Frank Hurley

The King of Trans-Jordan, His Highness the Amir Abdullah, Discusses Fine Arab Stallions with Glubb Pasha

The monarch, wearing an elaborate dagger at his belt, rules over some 400,000 persons. By a treaty, signed March 22, 1946, Great Britain recognized his 34,740-square-mile domain as an independent state. Glubb Pasha (Brig. John Bagot Glubb), a second Lawrence of Arabia, commands the King's Arab Legion.



The Arab Legion Has MPs, Too!

In both English letters and Arabic they make their purpose clear. The men wear modern khaki uniforms, but cling to traditional square kerchief headdress (*kaffiyeh*), held in place by loops of goat-hair rope (*agal*).



Kodachromes by Frank Hurley

Pride of This Mounted Police Sergeant Is His Arab Mare

She carries him on patrol duties over mountainous terrain where motor transport cannot go. These horses have remarkable strength and endurance for their size and have widely influenced horseflesh the world over.



Kodachrome by Frank Hurley

Saddlebags Are All-wool and More than a Yard Wide

Woven into brilliant patterns and decorated with tassels, the capacious bags borne by the swift camels of Arab Legion men are both useful and ornamental. Women of the nomadic tribes weave the bags and dye the wool with colors made from roots of desert plants.



Kodachrome by Frank Hurley

Men of the Arab Legion Display Their Regimental Flag

In the upper left are the stripes, triangle, and star of the national flag of Trans-Jordan. It was carried by the desert-hardened army during World War II while fighting for the Allied cause (Plate I). Since the war, units of this small but efficient force have aided the British by helping to maintain order in Palestine.



Kodachrome by Frank Hurley

Renowned for Their Hospitality and Generosity, Trans-Jordan Bedouins Gather to Entertain the Photographer

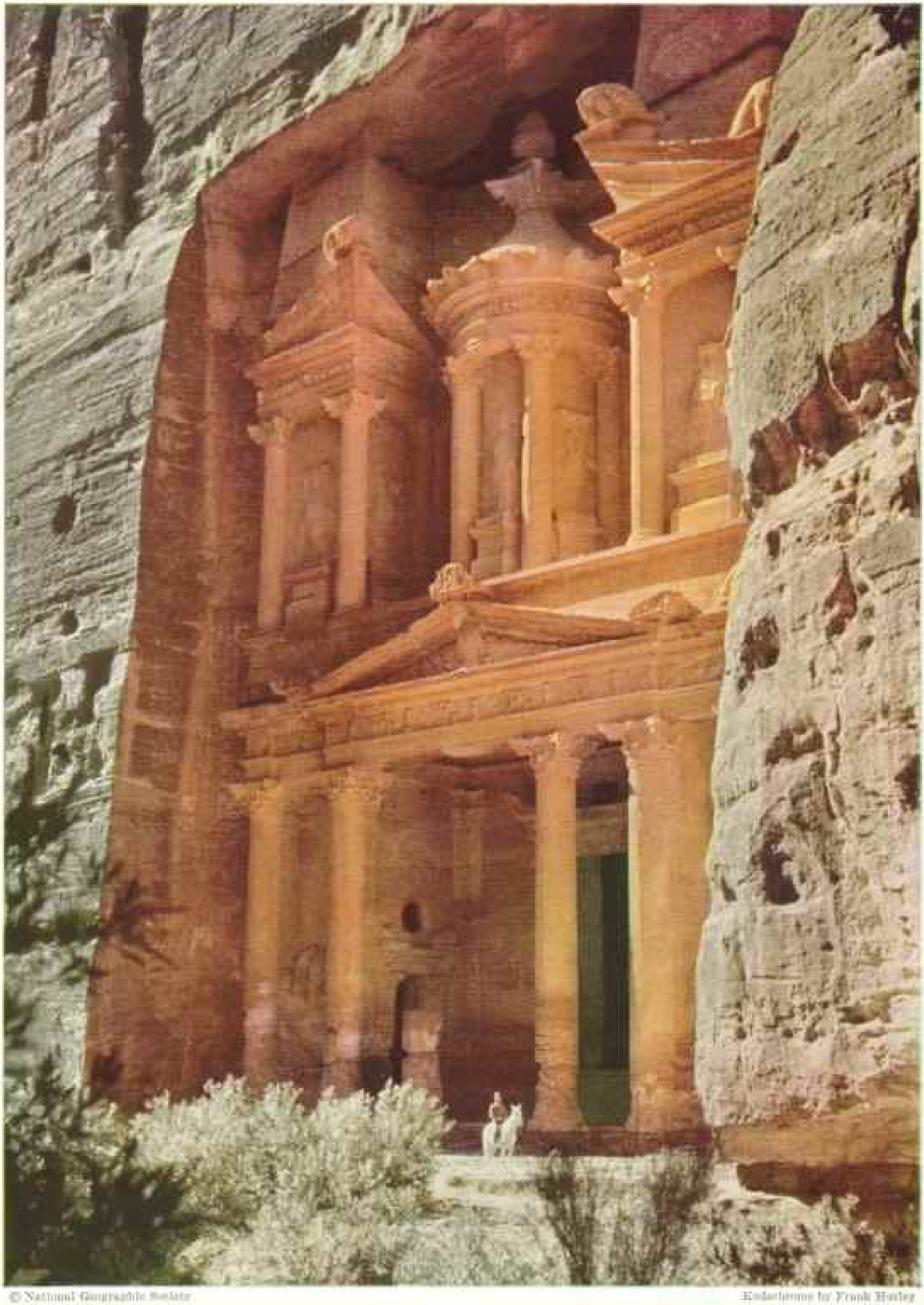
Rugs are spread in front of a long reception tent. Later a feast of lamb, rice, flat bread, and other foods will be served. These nomadic people have large herds of camels, sheep, and goats. Formerly they took keen pleasure in raiding expeditions, but these have been banned.



Kodachrome by Frank Hurley

Sheiks of the Wealthy Majali Bedouins Relax on Rugs and Soft Cushions Before Their Tent

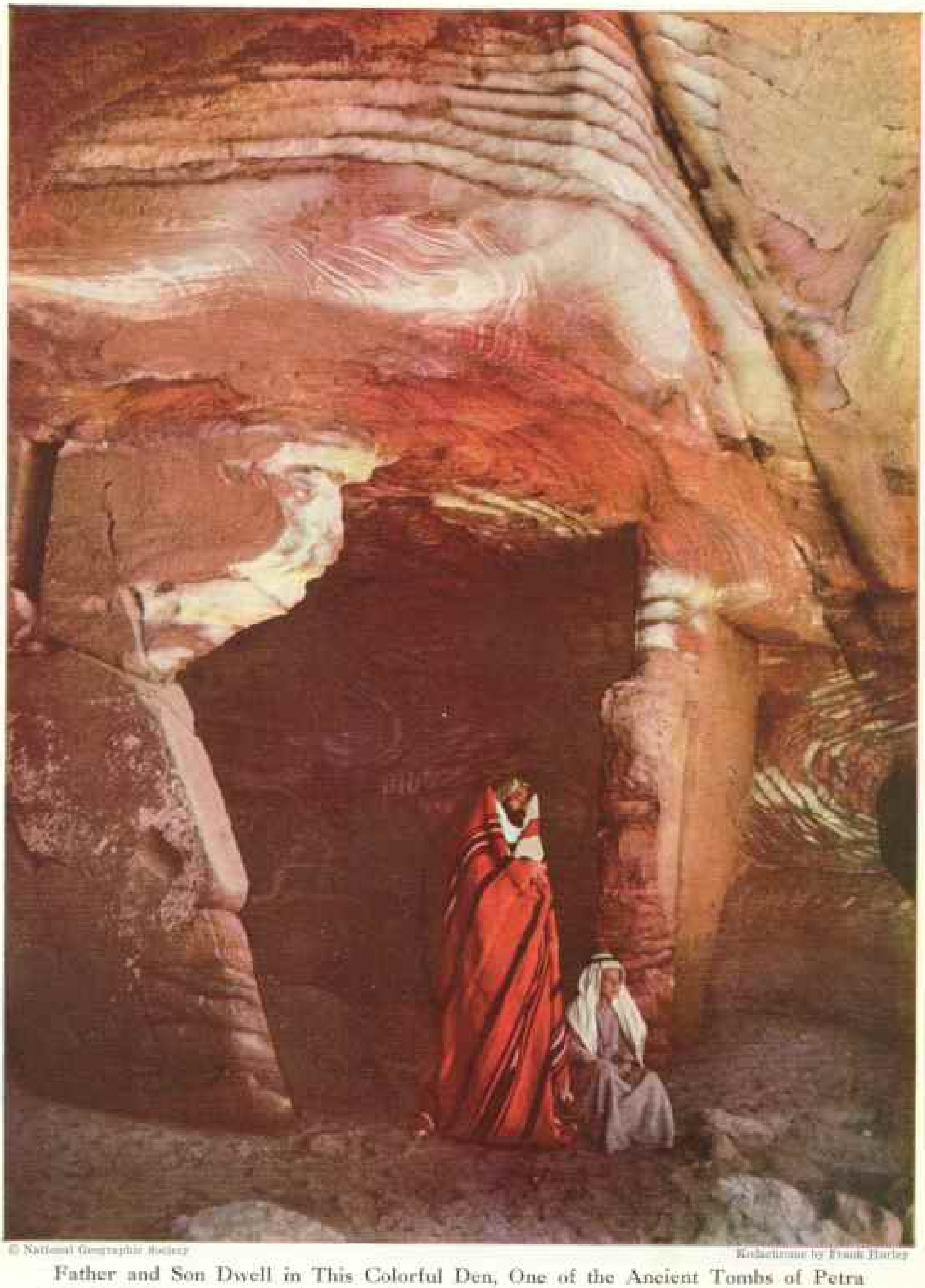
They roam the region in the vicinity of El Kerak (Plate XIV). Such leaders possess a remarkable desert-bred culture, are chivalrous, and have great personal charm. Some 35 main tribal groups are scattered through the country. Many are nomadic, but some are becoming partially settled in arable districts.



Kodachrome by Frank Hurley

Cameolike El Khazna (The Treasury) Reflects the Glory of Ancient Petra

An urn at the top bears marks of bullets fired by seekers of treasure at this old caravan stronghold (Plate IX).



Kodachrome by Frank Hurley

Father and Son Dwell in This Colorful Den, One of the Ancient Tombs of Petra

Once an important town, Petra is now empty except for a few Bedouins who live in the gaping tombs hewn by Nabataeans in the flame-tinted rocks two millenniums ago (see Plates VIII, XII, and XIII; also "Petra, Ancient Caravan Stronghold," NATIONAL GEOGRAPHIC MAGAZINE, February, 1935).



Blare of the Bugle Calls Legionnaires from Their Bivouacs at Dawn

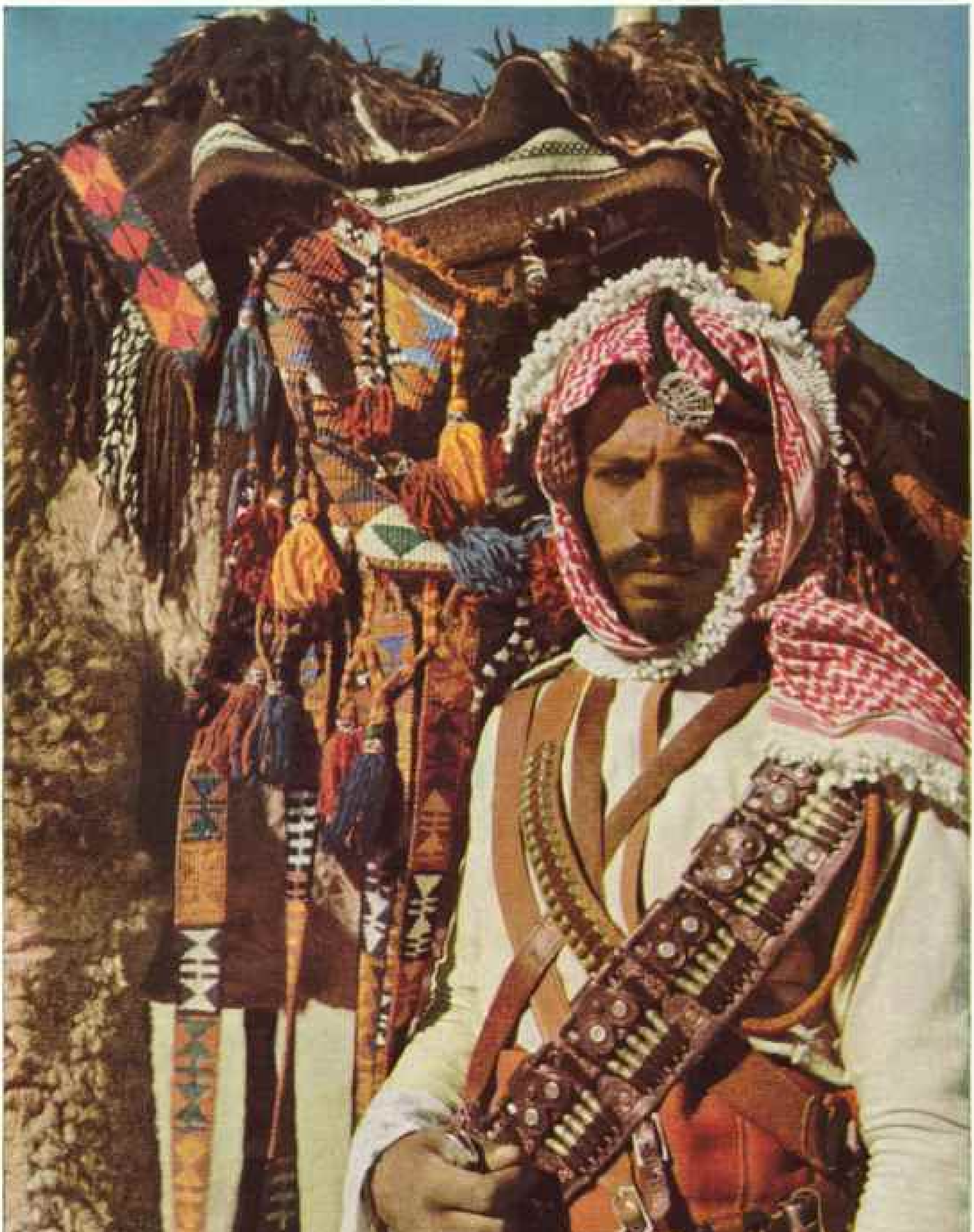
At night it sounds "Lights out." These former undisciplined raiders of the desert respond to strict training.



Kodachromes by Frank Hurley

Their Blood Is Circassian, but They Are Loyal Subjects of an Arab Kingdom

This mustachioed trio from the Caucasus forms part of the bodyguard of the Amir Abdullah (Plate II).



Kodachrome by Frank Hurley

A Member of the Anti-raider Desert Patrol Is a Perambulating Arsenal

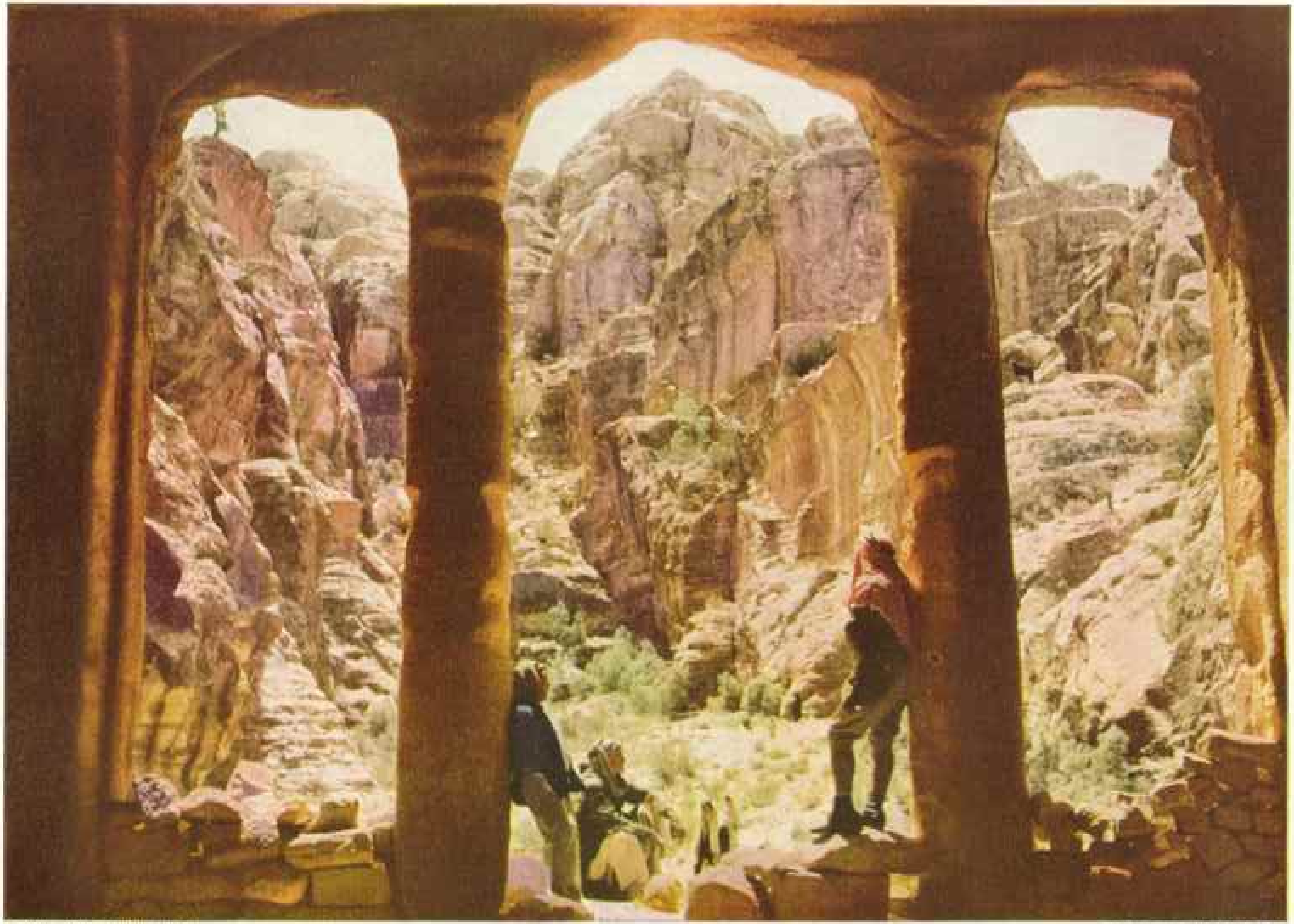
He carries ammunition for rifle and pistol in two bandoleers and a belt. With one hand he grasps a silver dagger. Mounted on camels, these patrolmen roam the desert to halt raids of one nomadic tribal group against the herds of another. Besides the Desert Patrol, the Legion comprises gendarmerie and a police and prisons unit.



© National Geographic Society

Kodachrome by Frank Hurley

A Camel Detachment of the Arab Legion Pauses in an Amphitheater Built by Pleasure-loving Romans at Petra



Kodachrome by Frank Hurley

Arched Tombs Overlook a Bewildering Chaos of Variegated Rock Walls Which Guarded Petra



Kodachrome by Frank Hurley

High on a Mountain Spur, Between the Dead Sea and the Desert, Towers the Old Crusader Castle of El Kerak

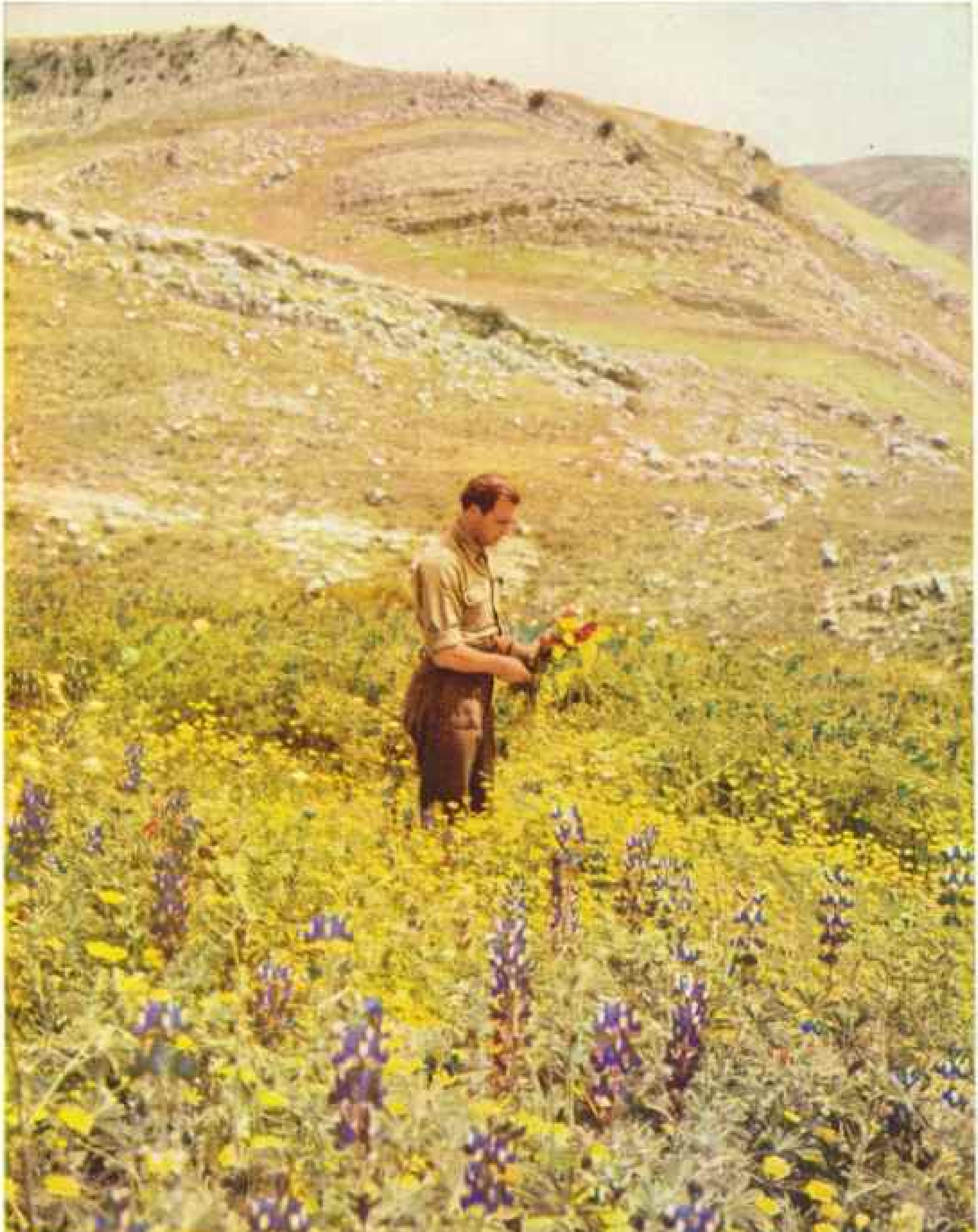
It was built about 1140, and commanded the caravan routes through this land beyond the Jordan. Most famous lord of Kerak was Renaud de Châtillon, who was killed by Saladin after the Battle of Hattin (1187). The fortress had large storerooms and cisterns, designed to sustain the inhabitants against a two-year siege.



Kodachrome by Frank Hurley

Trained as Rigidly as Are Their Masters, These Patrol Camels Obey the Order "Heads Down"

They are taught to kneel, roll over, and rise to command. Arab patrolmen, some perhaps once not averse to a lively raid on other Bedouin tribesmen, now do notable work in controlling the outlawed activity. Long robes and head scarfs are protection against desert heat and cold.



Kodachrome by Frank Hurley

In Springtime the Arid Hills Are Spread with Carpets of Glorious Color

During the short-lived early spring the desert is bedecked with dazzling gardens of lupines, anemones, daisies, and poppies which none but the lonely wanderer ever sees. But soon the hills grow stark under the scorch of summer. Eastern Trans-Jordan is largely desert. Most vegetation lies near the Jordan River and Dead Sea.

Keeping House in London

BY FRANCES JAMES

THE household gods of London are a teapot and cozy, a fireside, a fat and sleepy purrer of a cat, and perhaps a book or two on how, some day, it is all to be redesigned and rebuilt.

London looks before and after and pines for what is not—backward to Dick Whittington, ahead to the Abercrombie plan.* Its viewpoint will always be framed, I think, in such human terms and measurements as cats and dogs, children and old people, fireplaces and teakettles, and a warm, dry place to hang up the dish rubbers. Cosmopolitan London is essentially villagelike, the "homiest" metropolis I know.

Scores of American correspondents, such as my husband and I, congregate in London to garner news about shoes and ships and sealing wax and cabbages—or Brussels sprouts!—and kings.

The wives of London, it grows upon me, have a story, too—one of bacon, milk, bread, eggs, and the queue.

Modern Wives' Tales

These modern wives' tales of keeping house in London sum up the day-to-day epic of seeking normal amenities in a very abnormal world.

Having worked in wartime Washington, D. C., I was familiar with rationing and shortages, with streetcars jammed to the doors, little meat, no butter, and that dreadful Saturday-night rush at the grocery store.

Such annoyances were as nothing.

The longer we live in London the more we want to pin a medal on the British heroine of war and postwar, the housewife who has faced up to austerity for seven long years and whose ability to "make do" must be tested for many months yet to come.

One big difference to us between keeping house in Washington and in London is the difference between a roomy new flat and one crowded, ancient room.

Normally, Londoners prefer houses to flats, and big American-style apartment blocks in London are landmark exceptions rather than the rule (page 792). A vast area of London, as in all English cities, is a two-storied vista of front stoops and chimney pots, each stoop and row of pots stubbornly proclaiming the Englishman's wish to possess the sanctuary of his own entranceway and fireside.

The majority of London's houses were admittedly below modern standards of convenience even before the war. A half-dozen years of unavoidable wartime neglect and bomb damage have increased the rate and extent of obsolescence.

Flat or "Prefab" Considered a Prize

Today a modern flat or even a temporary "prefab" is a prize beyond compare. With domestic help and household fuel both scarce, big houses are conspicuously inconvenient, so much so that living in the mews, or one-time stables, behind them is more attractive than trying to maintain the big house (page 789).

Many old homes in the West End are being turned into maisonettes or bed-sitting rooms. Or else they stand beaten and empty, a strange note in a city with an acute housing shortage.

Today's home-seeking Londoner purchases coziness or convenience at the price of independent space or elegant scale, both of which require servants or an inordinate amount of personal housework.

We have crammed our collection of Americana into one large room "two pair (flights) up" in a house not far from Hyde Park and Belgrave Square; it belonged in its 19th-century "day" to one of the lesser gentry. I do our cooking on a one-burner electric grill. A cupboard holds our washstand.

In terms of convenience, we "keep house" in much the same wistful make-do fashion as thousands of other Londoners, waiting the day.

A blank hole in the row where once stood a house next to ours, a blighted vacant lot on the corner, and flapping canvas at the glassless windows of a scarred and peeling building across the street remind us each morning that a delayed-action bomb exploded in the neighborhood during the blitz.

It will take yet some doing to make such stains on London come completely clean. We are content to enjoy our one room. London, when it looks back, is thankful for victory.

His Majesty's Loyal Housewives

We arrived in London the first week of June, 1946, just in time to help several million perfectly polite people watch the Victory celebrations. We saw Londoners risk injuring the feelings of crack regiments in the V parade by giving their biggest applause to the uneven column of marching housewives. We sensed then that wartime call-ups and commandeering had struck first and hardest at the homemaker.

* Sir Patrick Abercrombie is the consultant for the County of London plan for Greater London.



Pix

Bag in Hand, the London Housewife Must Trudge a Weary Round of Shops

London lacks American-style supermarkets where all kinds of food are sold. These shoppers must make a tiresome tour, walking to the dairy for milk, to the provisioner's for staples and bacon, to the greengrocer's for fruit, vegetables, and often flowers, to the baker's, and to the butcher's or the fishmonger's. Frequently they meet discouragement, such as this greengrocer's sign, "No fruit of any kind."

Five months later, I knew how to appreciate at first hand the words in the King's speech to the new session of Parliament: "My Ministers recognize that the housewives of the nation have had to bear a specially heavy burden owing to the shortages of houses, of foodstuffs, and of other consumer goods."

Even more than the pub, the queue became wartime England's social center and the rallying point for national solidarity. Stare-sensitive Londoners who hid from each other behind their newspapers in the "underground," or who reservedly shared the sugar bowl in the afternoon teashops, broke the ultimate social barriers in the food queues.

The morning housewives' queue is a sort of feminine 20th-century counterpart of the old coffeehouse: see your friends, discuss the day's politics, pick up the gossip. There is often Elizabethan frankness.

Someone invariably tells of lining up for two solid hours the day before, only to have the oranges run out just before her turn.

"An' there I was," chips in someone else, "standin' in the fishmonger's queue when they started comin' by with tomatoes they got up at the corner. The 'ooman in front of me turns round and says, 'Nip up there, dearie, and buy some tomatoes. I'll stay here and git our fish.' Nip up, indeed!"

A Husband "Not Worth Queuing For"

No one was astonished when a girl recently pleaded in a divorce case that her husband was "not worth queuing for." But thanks to the demobilization of prewar clerks and countermen, queues now are more nearly the exception than the rule. Clients of the fishmonger can now get through their business with him in 5 to 10 minutes or less; in mid-war they had stood for hours in line.

Today's longest queues are of middle-aged



Acme

Fresh, Unrationed Fruit Tempts a Slim Purse into a Rare Extravagance

In midwinter this Oxford Street vender sold hothouse grapes at 80 cents a pound, plums at 60 cents a pound, small pineapples at a dollar each. Uncontrolled fruit prices cause wide resentment. Costs, however, vary greatly between rich and poor sections of London, sometimes by as much as a shilling a pound. By tradition, a "gentleman" is expected to pay more.

businessmen waiting for their evening papers, or of working Londoners queuing up for buses during the rush hours, or, recently, of the thousands of women (and their menfolk) hoping to buy nylons.

I find myself still queuing for food once or twice a week, but only for very scarce or very popular items, well worth it, such as citrus fruit and marked-down tomatoes. And there's *always* a line at the bakeshop on Saturday morning. Since fruit is frequently sold on the streets by barrowmen, queues sometimes tangle with the law.

When a banana costermonger was marched off to police court with his cart for causing a traffic obstruction, his queue—6 ranks and 30 files—marched right along with him and the bobby, hoping he would be bailed out and start selling bananas again before they would have to go home to fix lunch!

Within such queues one's place is sacred; and woe unto the ambitious queue jumper, who is regarded as un-British. One morning I watched a shy young English girl, a dark-skinned "duration visitor," and a militant little Cockney line up at a food counter. The clerk inadvertently started with the second comer, to the great indignation of the Cockney.

"Ay, mister, you can't do that," she scolded. "This 'ere young lidy was first." The clerk apologized to the entire store.

Standing in Line a National Habit

As the queues diminish with the return of additional help to the stores, the housewives feel a bit nostalgic. The queues had kept them from being lonesome and had helped them share their hardships. I now chuckle with my husband at the "peculiar British" when I see two women queuing up in front of one clerk in an otherwise customerless store; but I think I understand.



Staff Photographer B. Anthony Stewart

Baby "Makes Do" with a Wheelless Pram

Mother and father, strolling in Kew Gardens, give no clue that clothing is tightly rationed. Each adult received about 50 clothes coupons this year. A man's suit costs 26; a woman's woolen dress, 11 (page 787). Stockings, gloves, even scarfs are rationed. Fortunately, hats are point-free. One baby out of four has to do without a new perambulator.

The London housewives agree that if everything, including nylons, were rationed, they would not have to spend so much time in hunting—or queuing.

Eggs, sugar, jam, meat, bacon, butter, margarine, lard, and cheese are the basic food items which are rationed, each person registering for these items at his favorite shop.

The system not only intends to leave no unaccounted-for pound of butter for black-market operations, but it also insures each registrant's getting his share whether he gets to the store at 9 o'clock in the morning or 5 in the evening. Certainty eliminates the need for rushing, and the controlled prices on rationed items are reasonable. Butter, for example, is 28 cents a pound; lamb chops, 30 cents; bacon, from 18 to 42 cents; eggs, 35 cents a dozen.

One registers for milk at the nearest dairy, whether one wants to patronize that particular place or not. My ration board explained, "It's really much easier these days to change your husband than your milkman."

Tea, soap, "sweets," processed foods, bread, flour, and cakes are also rationed, but may be purchased with appropriate coupons at any convenient well-stocked store.

Even with the ration system working smoothly, food shopping takes much of every housewife's busy day. A friend of ours running a typical middle-class home estimates that she daily spends nearly two hours purchasing food for six adults.

While perhaps 30 minutes of this time may be accounted for by queues at the fishmonger's and greengrocer's, where shopping is friendly and slow, most of it goes into trudging from one shop to another (page 770).

There are few if any supermarkets in London; one shop usually handles one type of produce only. Bread and buns are purchased at a bakery; milk at a dairy; fruit and vegetables at a greengrocer's; meat at a butcher's; fish at a fishmonger's; tea and coffee at a tea merchant's; and staple groceries at a provisioner's.

A London Housewife's Shopping Day

While a few of the stores are equipped to deliver telephoned orders to old and valued customers, Mrs. John Bull normally shops



Staff Photographer B. Anthony Stewart

Living with In-laws, This Family Seeks Privacy and Sunshine in Hyde Park

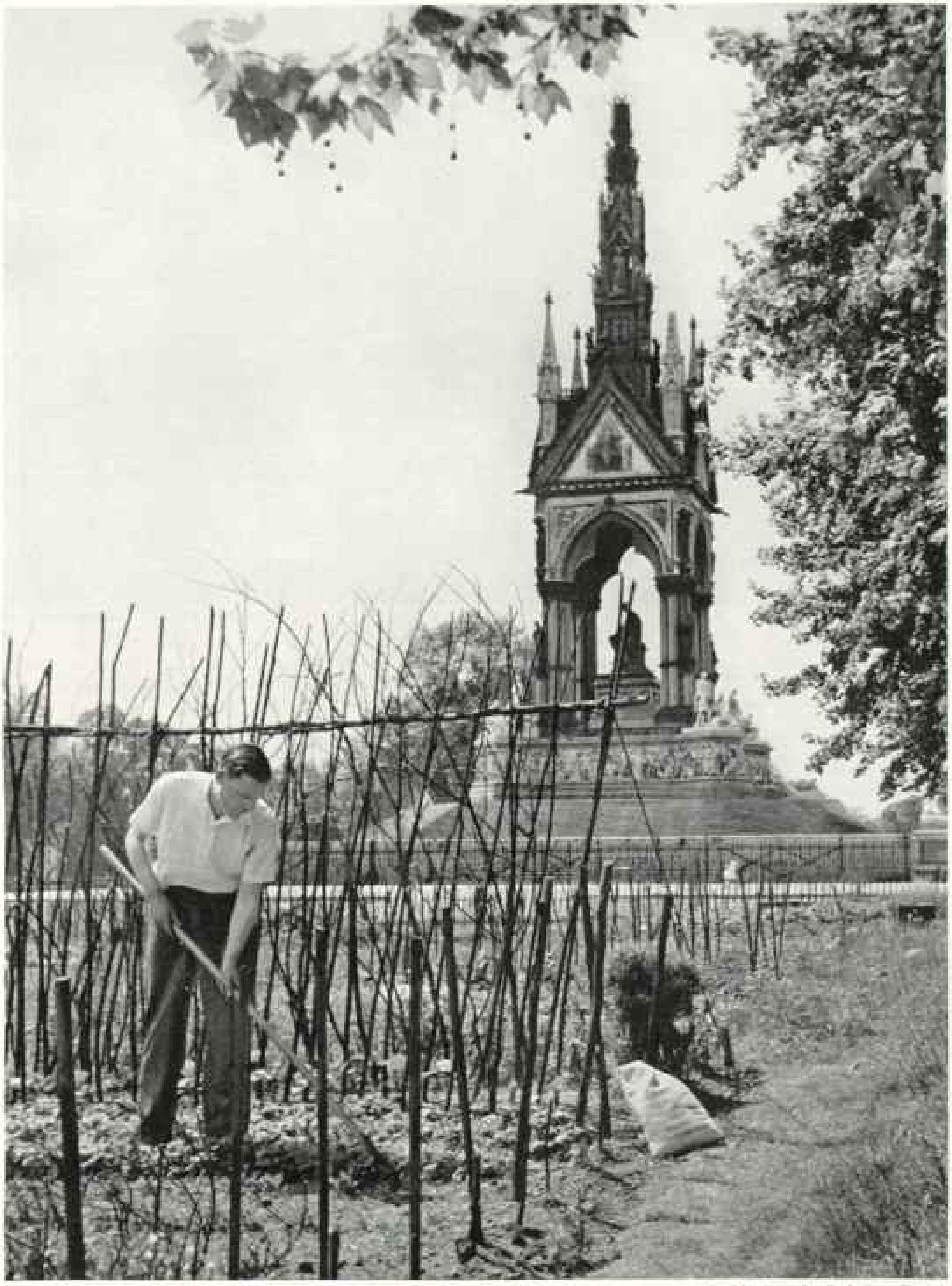
Thousands of London families remain doubled up in run-down quarters. Jimmy Davidson, two years out of the Navy, and his wife Madge, who worked in an airplane factory, cannot find a home of their own. Their baby's pram carries a market basket. On a Sunday the whole family moves into the park.



British Information Services

Junior Gets a Vitamin Handout from the Ministry of Food

A bottle like this, containing the juice of a dozen oranges, costs 10 cents. Babies get cod-liver oil, too.



Staff Photographer B. Anthony Stewart

Peace Brings No End to Victory Gardening; Bean Poles Rise Beside Albert Memorial

Food remains Britons' first problem. To ward off starvation, they graze or cultivate 82 percent of their densely populated isle. Wartime farm goals remain; deer parks are still plowed up. Nevertheless, only half the austerity ration is grown at home. Last spring blizzards and floods staggered farmers just at planting time.



N. Y. Times

Barter Is Lively. Carrots and Shoes Exchange Hands in an Even Swap

To stimulate trade, a Croydon store accepts excess garden produce in payment for consumer goods. Both are valued at market prices. Coupons, of course, must be surrendered for clothing (pages 772 and 787).

and carries her day's food parcels home on her own feet or bicycle.

Just to show you how it is, after my breakfast of porridge, tea, toast, and jam, I start out to buy milk and bread, peas and carrots, my once-a-week basic "rations," vinegar, mustard, and tinned marmalade pudding, and to have a look-in to see what the butcher has.

My dairy is one block away, a friendly store presided over by Peter, London's largest and lordliest cat, who looks over each customer's purchases and must be stroked and petted by all (page 777).

It takes five minutes for Peter to finish with the two or three customers ahead of me before I can collect my half-pint. For another minute *I* admire Peter; then the clerk and I exchange the customary "Good day to you," and I am off to the next store on my route.

I could get bread at my dairy, for, like some dairies, it handles bread and some canned goods in addition to milk. But no ice cream!

For a particularly delicious form of tea bun, however, I go to a bakery, three blocks north and one west from the dairy. Before bread rationing was put into effect in July, 1946, queues at the bakery were never more than half a dozen housewives long, and moving in tempo with the cash register. The complicated bread rationing slowed everyone down for its first few weeks of operation, but had the effect of bringing cakes out from "under the counter" and up for sale to all would-be purchasers. I spend five minutes at the bakery.

My butcher's shop is two and a half blocks farther on; with great care I have selected him for his smile after a thorough survey of all smiling butchers in the neighborhood.

"Sorry," he tells me. "Veal is coming in this afternoon, maybe." I decide I'll make a return trip.

Many Wait in Line for Oranges

One of my favorite greengrocers is half a block south. "He must have oranges," I observe as I turn the corner, for the queue extends out of the shop and 15 yards along the pavement.

If I don't wish to join this queue, I can go to another greengrocer, three blocks back to the east, for the peas and carrots; otherwise, I shall have to wait in line a full half-hour for that pound of peas and one bunch of carrots, plus oranges, if I want them. This takes half an hour, maybe three-quarters.

Luckily, the provisioner where I am registered is on my way back home. There are



Staff Photographer B. Anthony Stewart

A Bareback-riding Assistant Helps the Costermonger Sell Firewood in the West End

A hundred chunks sell for $4.30. Though the free show attracts a wide audience, it does not create many customers, for most London fireplaces have coal-burning fire baskets rather than wood-burning andirons. Last winter some Londoners burned asphalted wooden paving blocks. This horse gets a special feed allowance; the dog lives off his master's rations. Their act recalls the famous street cries of long-ago London.

one or two customers ahead of me, but four or five clerks are about, either at the counter or back among the bins and recesses. I know that, even without a queue, cutting coupons from the book and weighing and wrapping my week's rations will eat up 15 minutes.

One Egg per Person per Week

Eggs are easy when there are any to be had, one to a ration book. That is, one egg per person per week (more for children, expectant mothers, and some invalids). When we are lucky enough to find the hungry hens up to schedule, we have that egg for our Sunday morning breakfast—an *event*.

Tea—now two ounces a week—must be weighed out, rolled up in a sheet of paper, and coupons cut.

Marmalade pudding is four points. I must measure its point value against possible alternatives: sardines? dried figs? All-bran?

My sugar ration is already packaged, but the bacon must be weighed and wrapped.

Butter, margarine, and lard are already cut into one-ration-size chunks and need only be counted out to the number of books.

No trouble at all about the vinegar; it's not rationed, nor is the mustard.

Twenty minutes more of my time gone, though.

I have been rather fortunate today. My shopping for two has taken just a little over an hour and a half since I closed my front door. I have walked 12 blocks and will add only a few more on my return trip to the butcher's.



Staff Photographer B. Anthony Stewart

Peter the Cat, Lord of the Dairy Counter, Superintends Each Sale of Milk

Taking time out from her arduous daily shopping tour, the author strokes "London's largest cat," as nearly every patron does. Peter, part Persian, has been shedding his thick fur; all the dairy's customers considered it a misfortune that he had lost two inches in circumference before sitting for his picture in the NATIONAL GEOGRAPHIC MAGAZINE (page 775).

Except for the once-a-week basic rations, I make such a round as this each day, six days a week. I can't do as I did in Washington—buy a week's supply of groceries at one time and keep my electric refrigerator well stocked for any emergency. There are, as yet, relatively few iceboxes or electric refrigerators in London.

With prevailing outside—and inside!—temperatures being what we have found them to be, I am not surprised that the average London housewife thinks an icebox a nice but unnecessary luxury.

Stronger even than the war's great advances in food packaging is the Londoner's firm conviction that the only decent food is that purchased fresh each day. However, I wonder if sometime the British replanners will start with adequate food-storage capacity at home, coupled with supermarkets, and with the popularization of tinned or otherwise packaged foods.

"Britain Can Make It"

By far the most popular exhibition in all London during the late summer and autumn of 1946 was the mammoth "Britain Can Make It" exhibition, hidden inside a plywood and drapery shell within the archaic confines of the Victoria and Albert Museum.

Here one found London housewives queuing for as much as four hours to see an exhibit of tantalizingly beautiful appliances, made more tantalizing by the fact that most of them were marked "For Export Only."

In the exhibit section on packaging, I



British Combine

Out Goes Baby, In Pours Coke as Perambulators Queue Up for Fuel. Thus London Battled Arctic Blizzards

Last winter was Britain's worst in 70 years. Deep snow isolated villages; the RAF parachuted food. Movement of coal was paralyzed. Power failed, factories closed, and lack of gas and electricity plunged London back into the blackout. Candles burned in offices. Big Ben's chimes froze. These folk get a skimpy fuel ration.



Jolly Wives of Holborn Enjoy a Laundry Bee

For the equivalent of about 10 cents the community laundry provides hot water, tubs, electric irons, and quick-drying cabinets. Banter and gossip flow like suds. On thrice-a-week bachelors' night the Holborn Borough Council, operator of the laundry, expels the women so that men may wash their "smalls."



Staff Photographer B. Anthony Stewart

"Bathe Early for Christmas," Urged Holborn's Public Baths

During last winter's coal crisis most public baths had to close. Then the Borough of Holborn, having converted boilers to oil, attracted bathers from all London. Finally, tubs were thrown open Sundays to accommodate the record crowds. About five cents ("thruppence") buys bath and towel.



N. Y. Times

When England Is Flooded, Water Is Scarce. Washtubs Drain a Tank Car

Following winter's blizzards, March thaws released the worst floods in 300 years. Tanks were sunk to mend levees; assault boats rescued refugees. Eton's playing fields were goal-post deep. In London the Thames crippled 40 miles of subway, and flooded filters contaminated the water system of a million people. For two weeks 700 emergency tankers, carrying out a wartime plan, distributed drinking water.

found an unconscious tribute to the sales resistance of Londoners against any plans which might violate their fundamental principle of "making do."

"Before" was represented by a provisioner's store of great-grandmother's day. There was great-grandmother in effigy with her early 19th-century bonnet, string gloves, string shopping bag, faithful dog companion, and umbrella with which to protect herself against the drayhorses and the rain. There was the store, with all the staple goods left to the mercies of unscientific packaging.

Clever little jingles emphasized the possible horrors:

Little Dog	Loose Tea	Leaky Sack
Left to Run	Large Crate	Midnight Hour
Sees Bag	Fumbling Grocer	Busy Mice
Harm Is Done	Long Wait	Goodbye Flour

"How well they know," I thought when I saw the simulated store; for the great-grandmother's provisioner depicted in the exhibit has its counterpart six blocks away in real life today. I trade there.

Here Dickens Would Feel at Home

My 1947 provisioner advertises himself as a "wine and tea merchant since 1822." His great-grandfather apparently started out to capture some of the swank Belgrave Square trade about the time the Square was built. The store itself cannot have changed much since then; any Dickens character stepping into it would feel at home.

Today's customers from Belgravia bring their well-behaved dogs along as companions and escorts.

The counters, and the shelves behind them, are made of walnut or mahogany, dark-stained, and finished with elaborate molding. Pier glasses add a final, supremely elegant touch.



Staff Photographer B. Anthony Stewart

Women Bear the Vexations of Rationing—the Walking, Queuing, and Questioning

Recently a Scottish housewife wrote a speech intended for delivery in Parliament. "Men," she said, "have got the country into the state it is today. What do they know about queuing and food shortages?" London's rationing offices are efficient and reasonably swift. As the sign indicates, certain exceptions are made: Underground miners get extra meat; children, invalids, and expectant mothers receive additional milk and eggs; extra tea goes to the aged (over 70); vegetarians get more cheese.

Daylight barely penetrates to the rearward recesses of this rich brown décor.

On the lower shelf is a row of rectangular tin boxes labeled "Castor" (sugar), "Pink Icing," (also sugar), and "Powdered Rice." Above them is a row of giant tea caddies which hold tea, coffee, oatmeal—in fact, most of the granular items sold.

Both sets of canisters are painted brown and embellished with the red and gold imitation Chinese scenes and characters so popular in Queen Victoria's day.

Many provisioners' shops, however, are quite modern, with white-marble counters and neat shelves of packaged goods.

The provisioner, evidently by tradition, handles bacon as well as other basic rations. The bacon is not included in the meat ration supplied by the butcher.

Even in normal times the Englishman could never get too much bacon; restriction of his supply now is one of the hardest crosses of all to bear.

We like the English bacon, too, and I watch as anxiously as the housewife next to me while the clerk jiggles his brass balance weights against the thin succulent slices of my allotted ration.

Processed Foods Also Controlled

The provisioner also sells the processed foods controlled by the point rationing system. Each person gets 28 points a month, which he can spend against biscuit, macaroni, and dried eggs; or tinned foods like peas, beans, fruits, meat, and fish; or puddings, or dried fruits, table jellies (gelatins), and dry cereals.

A young English friend of ours, recently "demobbed" and unfamiliar with the rigors of civilian life, threw his new ration book and his fortune on a provisioner's counter and asked the clerk what, out of all the food riches in the



British Combine

Flowerpot-and-candle Stove Saves Fuel

A beribboned member of the Women's Voluntary Services demonstrates an air-raid shelter device revived by Londoners when gas and electricity failed. Incased between two pots, the candle keeps a kettle or saucepan warm for hours. Two wooden props admit air; two others should separate pot from pan.

most part, shipped in from the United States.

English "biscuits"—cookies—are almost adequate compensation for any curtailment of other foods. One bite explains the huge export business normally done in them. Delivered to the provisioners in large square tins, they are sold by the pound or half-pound under names which make no attempt at glamour. One of the most popular types, in fact, is known simply as a "digestive biscuit." "Gingernut" I think is a good name for what we call a "gingersnap." Saltines, or their nearest equivalent, are "cream crackers."

Our precious biscuits are weighed into a paper bag, which the clerk twists shut by holding the top corners and twirling the bag around rapidly until a small ear appears on either side. This seems to be one of the traditional ways of packaging.

Though such bags are used for many granular products, tea and coffee are usually piled on a flat sheet of paper which is then folded around the heap so neatly and firmly that the package holds together without the assistance of string or sticky tape. It must take a long apprenticeship to achieve such clerking art.

Half-pound lots of sugar are often rolled into distinctive blue-paper cones, which do not spill a grain.

store, he could acquire. The clerk, he claims, handed him two cans of sardines and a box of cereal and told him to come back in six weeks, when more points would be good.

Though our friend embellishes and exaggerates his story of how tough it is to be a civilian, English housewives watch their points carefully. Baked beans or spaghetti can be a hard choice.

A number of the point foods carry American brand names or trade-marks, even though they may be packed in England. For instance, treacle pudding, British as it is, parades as one of the "57 varieties." But the familiar Shredded Wheat package lacks a view of Niagara Falls. Tinned meats are, for the

Greengrocer Often Sells Flowers, Too

The greengrocer, who also handles fruit, often includes flowers among his wares, so that his shop brings the look of the country to London. Beets, strangely enough, are sold already cooked, a fact I discovered early in my shopping education. English eggplants, like

English motorcars and freight cars (here they call the latter "goods wagons") seem reduced in scale compared with American counterparts.

English spinach I found difficult to recognize among all the greengrocer's greeneries, as its arrow-shaped leaves have no gloss. Water cress is abundant, cheap, and palatable. Peaches are purchased one by one and are handled as luxuries, the price varying from 10 to 30 cents apiece, according to size and season.

Regular Customers Get Scarce Items

Greengrocers may hold back scarce items for regular customers. They are not on the defensive about this at all, but imply that a stranger has overstepped some kind of boundary by making an inquiry. Our vegetables have come from the same one or two shops every day we have been in England, but grapefruit is still very often for "reg'lars" only.



Pix

A Week's Meat Ration Fries for One Meal

Each adult Briton is entitled to a shilling's worth (20 cents) of fresh, tinned, and processed meat a week. Babies get less. Bacon—one ounce a week—is rationed separately. Ham is but a memory. Butter, margarine, and cooking fat are held to seven ounces a week (page 784).

This is, of course, but one manifestation of British steadiness and loyalty to old friends. Sometimes it goes much further. One day I overheard a woman asking the greengrocer if he had any raspberries.

"We-l-l, only just what my partner was going to take home with him," he replied.

"Fred," he shouted toward the back of the shop, "there's a lady here wants to buy some of your raspberries." Fred appeared, and a lively conversation followed. The woman objected that she wouldn't dream of taking any of the berries he'd saved for his own family, and Fred insisted that she was welcome to them. They settled the argument finally with each taking half.

The butcher displays his wares in a geometric, if iceless, design. Appropriately for tradition's sake, tins of corned beef are relegated to the background of the display, while "Scotch and English" rolled roasts, steaks, chops, and legs of lamb occupy the limelight—until they are all sold.

Meat Proudly Displayed—While It Lasts

These central-display items are bounded by turkey and goose eggs (sold at about 50 cents each) and occasional chickens or ducks or turkeys, guinea hens, tiny wild game birds, wood pigeons, wild duck, or rows of rabbits.

A flippant touch, which even the gruffest, most fiercely mustachioed butcher brandishing the wickedest of blades can't live down, is



Staff Photographer B. Anthony Stewart

Peacetime's "We're Up Against It!" Echoes War's "Blood, Toil, Tears, and Sweat"

Exhausted Britain, having sacrificed overseas resources for war and acquired a staggering debt, fears her living standard is at stake. Seeking more goods for sale abroad, the Government tells its message with posters, "Export or die" and "Fill the ships and we'll fill the shops." Union leaders, too, urge men to work harder. In the old City of London this slogan of the new campaign rises above the blitz's scars.

added by a saucy row of hindquarters of fat little lambs strung up, tail foremost, across the back of the shop.

Formerly, each ration-book holder was allowed 20 cents' worth of fresh meat (about a pound, according to the cut) per week, plus 8 cents' worth of corned beef.

The latest austerity program cut the ration to a 20-cent total. It can be supplemented sometimes by unrationed "offal," meaning liver, heart, kidney, or sausage (which, though its meat content was raised to an official 50 percent, has a tendency to emerge from the grill as toast).

There are a few other unrationed oddments, such as haggis, the Scottish meat pudding made of the heart, liver, and lungs of a sheep or calf.

Hamburger is called mince meat and is rather hard to get, as even the invading GI failed to make it popular. Many butchers, in fact, do not possess a meat grinder.

If it is a very warm day, meaning above 80 degrees, there will be little meat on display. Signs announce instead, "For our customers' protection, we keep our meat on ice during the warm weather."

England's Backbone of Fish

There are many more shops selling fish—fishmongers, they are called here—than in even the saltiest of American cities.

All look very much alike, scorning a front door or windows. The shop is opened for business in the morning by rolling up the entire store front, constructed like a roll-up



Staff Photographer B. Anthony Stewart

For Afternoon's Precious Tea These Londoners Stand on Aching Legs in a Queue

London's parks, which ventilate acres of masonry, have been called its "lungs." On Sundays especially, they are crowded. These folks line up at one of Hyde Park's teahouses. In Kew Gardens the tea line is sometimes four persons wide and hundreds of yards long. A deep disappointment was the cut in the tea ration to two ounces a week per person. Public teahouses charge no ration points.

garage door, and the fishmonger and his helpers work more or less in the open air. Some butcher shops and greengroceries are similarly open to the winds.

The fish are displayed on marble slabs low at the front and rising like a wedge of cheese toward the back. Although the marble is used to keep the fish cold, the fishmonger also deals in ice; and if you want ice to cool a drink, this is where you go to get it.

At the moment, many of the fishmongers feel much put upon because the Government will not allocate new marble for replacing slabs chipped or broken in the blitz.

London's reputation for good fish is justified. Flounder a foot across, pink-faced herring, smelts, mackerel, whiting, and cod are beautiful, even though having fish five days a week for more than six years must have grown dull even to the phlegmatic Londoners—particularly as they prefer their fish simply boiled like potatoes and bedded down in a tasteless white sauce.

Tiny things selling for a few shillings a pint, English shrimps look like Louisiana crayfish in miniature. Larger ones, called prawns, sell for as much as eight shillings, the equivalent of $1.60, and come already boiled.

The fishmonger's most popular ware is the kipper—herring which has been split open, cleaned, flattened out, and smoked. Kippers are a favorite breakfast dish or pièce de résistance at a "proper" tea. Since fish is unrationed, most housewives serve it as an entree at least five days a week, saving their meat ration for a Sunday "joint."



Soap Is Rationed; Month's End Brings a Crisis

Each adult may split the monthly allowance between three cakes of toilet soap and the equivalent in laundry flakes. A new patented product which lathers "just like soap" has London housewives agog. This wife's flakes have run out. At the cost of grimy hands, she sacrifices toilet soap to the wash. Mothers get an extra ration for babies' diapers.

Fishmongers, who even in America sometimes wrap their wares in newsprint, are the hardest hit. Many appeal to their patrons: "We pay highest prices for good, clean newspaper."

Vegetables are dumped, dirt and all—and right on top of the meat or cake unless one is watchful—into the cloth carryall, without which no woman ventures far in London.

Downtown shoppers carry elegant string bags as great-grandmother did for such items as books, medicines, soap, and yarns, which are never wrapped and are of course awkward to carry loose.

Knowing that every cabbage and sprout comes fresh-cut into London every night, and nearly every fresh fillet of fish likewise, I have been fascinated by the great movement of food early each morning from the centuries-old central markets to the retail shops. Covent Garden (the greengrocers' market) and Billingsgate (the fishmongers') are certainly among the sights of London. One does more than just "see" Billingsgate; one also smells it.

From these two markets the vegetables and fish fan out through London. Pony carts simply fly over the pavement to make a greengrocer's 8:30 opening hour. Pony and master are obviously proud of each other and of their cart, which is apt to be newly painted in reds or blacks with bright floral designs.

Enormous dray horses, with so much hair falling over their hoofs that they look rooted to the pavements, haul the heavier vans. Their collars, glorious with brass, often advertise the firm for which they work.

Summing up the food shortages, I find that I miss most of all whatever happens to be

A few fishmongers, I notice, are now making themselves poulterers also, adding feathery rows of pigeons or plovers to their gastronomic display. I suppose that even Londoners must some day revolt against fish five days a week.

Wrapping Paper Is Very Short

Paper is still very scarce in Britain. Department stores are allowed bags and boxes for wrapping such items as clothes, but food dealers get wrapping paper only for granulated or very wet products. One week our Sunday joint will appear in a page from the *New York Times* book section; another week, in a sheet printed entirely in Greek.

the "shortage of the week."

Shopping for the groceries is the big housekeeping task of the day. But the really severe clothes rationing provides another kind of juggling game for "leisure" moments.

"Darning Toward Peace"

"We knitted our way to victory and now we're darning toward peace," one woman, who no doubt spent her evenings mending, said not long ago in a magistrate's court.

In addition to darning, all sorts of handicrafts which utilize unrationed materials have been revived. Many women sport extremely neat chamois gloves they've made themselves, or wear chamois weskits. Colored sheepskins are converted into fuzzy slippers, while ever-abundant British felt serves for everything from ironing-board covers to ersatz carpeting.



Staff Photographer B. Anthony Stewart

Swords to Plowshares; Parachutes to Undies

Selfridge's window displays airmen's silk and nylon, with instructions for cutting. One-third of a chute, says the sign, makes "two nightdresses, two slips, two pairs of cami-knickers, and four pairs of knickers." The material is expensive, but it is unrationed. London women miss new undergarments more than anything else. Many brides have to rent gowns for a "white wedding."

An adult receives approximately 50 clothes coupons per year, children more according to age, and it is mother's job to parcel out the family's combined allowance to keep everyone warmly if not elegantly clad.

A man's suit now takes 26 coupons; a woman's, 18. Shoes will vary in coupon cost from 5 to 9; a pair of rayon stockings is 1½. Tailor shops even on the very best streets advertise "Your old clothes turned to look like new."

Other Items Still Short

Household linens must somehow be squeezed out of this allowance, except for newlyweds. Even the common knowledge that the sheets of the President of the Board of Trade are so old that *his* toes poke through them is no consolation to the housewife who must give up from 6 to 14 coupons of her own for a new pair, depending on the size she wants.

Continued austerity prevents much other shopping. Household goods are in short supply, though saucepans and other kitchen goods have again appeared in adequate quantities on shop shelves. New furniture is scarce. One must not only have priority dockets and ready cash, but one must then locate a shop with pieces for sale. Queues form as early as 5 in the morning in front of secondhand furniture shops on advertised auction days.

A few of the chemist shops, I notice, are now openly calling themselves drugstores, but



Staff Photographer B. Anthony Stewart

Pots, Wringers, Tubs, and Carpet Sweepers Proudly Return to the Homewares Dealer's

"Yes, madam," says this Chelsea saleswoman, "you can turn the bathtub over and make a coffee table." New furniture still requires a permit. On electrical goods Britain pushed many items back into production before the United States did; consumers got them just in time to encounter the power shortage.

none sell the variety of wares to be found in any American drugstore.

The chemist stocks hair nets, nail polish, and a few similar items, however. And some chemists are even stretching an exploratory finger into the food business, stocking those packaged foods which have a faintly medicinal connotation: baby foods, junket, beef extract, saccharin, malted milk, and preparations for nursing mothers.



Staff Photographer B. Anthony Stewart

Breakfast on a Tub Saves Kitchen-bath Space

These Americans—you can tell them by their coffeepot—live in one of London's old mews, or stables. Their bathroom in the coachman's quarters was an afterthought. Water is heated by the "geyser" (left). Servants are not to be had.

Milk Is Rationed, Too

Soda fountains are few and far between. "Milk bars"—semi-open-air shops like the fishmongers'—sell tea, lemonade, "squash" (a fruit-flavored soda-pop drink), sandwiches, and tea cakes.

Their menus list "milk sodas," but the days of milk abundance are long since gone, the milk ration at its midsummer peak being but three pints per adult per week.

Peddling ice cream, known here as "cream ice" or just "ice," is a lucrative trade for a barrowman. Perhaps because of the long tradition of open-air street fairs, costermongers are not discouraged unless they create a nuisance.

The muffin man has disappeared from our neighborhood and others, what with the war and bread rationing, but venders of winkles and cockles and mussels, "alive, alive O," and jellied eel are thick through London's East End.

The Caledonian Market, where one could buy anything from a shoestring to a harp, also disappeared during the war but is due to be revived. Petticoat Lane is as well patronized as ever on Sunday mornings; and the Farringdon market, where pushcart bibliophiles sell rare editions or the latest paperbacks, still sprawls along Farringdon Street. Bright-red Gypsy wagons appear from nowhere at some of the busier intersections around 4:30 to dispense hot tea and "snacks."

Mealtimes—and Between

Many shops have been unable to replace plate-glass windows lost during the blitz, so store fronts are sometimes paneled with paperboard or wood around a tiny central pane of glass. The effect gives a conspiratorial air, as if the shop wanted to hide anything it *might* have for sale.

The same amount of food does not seem to go as far in London as it did in Washington.



Staff Photographer B. Anthony Stewart

Anxious Faces Scan the Neighborhood's Furnished Rooms Notices at the Tobacconist's

Advertisements in paper-rationed newspapers are expensive; so stationers and tobacconists rent space for signs. These cost about 10 cents a week. To cut imports and conserve Britain's dollar credits, the tobacco tax was boosted last spring and up went the cigarette price from 50 to 70 cents a pack.

England's climate stimulates our appetites and makes it almost imperative to eat or drink to keep warm. During last winter's coal shortage, thermos bottles filled with tea saved the day for us. Normally, like the most dyed-in-the-wool Londoner, we keep a hot-water pot steaming on the grill through the day, making from it either coffee or tea as the mood strikes us.

In spite of the English predilection for tea, coffee, I notice, is a by-no-means neglected drink, though our hostess when we go visiting always apologizes for not being able to make coffee so well as the Americans make it.

The coffee-roasting shops, of which there are many, have an almost visible aura about them in the damp London air. The Londoner selects something like Mocha Mysore or Madagascar or Washed Santas or some other variety to his taste and has it ground in the shop. He drinks it in splendid isolation in the parlor after dinner, letting no other taste interfere with the strong bitterness; or, contrarily enough, mixes it almost half and half with hot milk for his morning "elevenses" in which he shares the café-au-lait taste with bread, a roll, or cake.

Coffee here is made like tea, by steeping the grains in boiling water in an earthenware jug.

In spite of the Empire, London's tea today is largely what the British refer to as "kitchen tea." Only recently have Chinese or other luxury teas been available for connoisseurs. One of my favorite brands is "Bostonawba," blended by a tiny old shop in the City which actually supplied a part of the tea thrown overboard in the famous Boston Tea Party.

Though Britain as a whole drinks 90 percent of her prewar consumption of tea measured quantitatively, choosy Londoners complain that tastes have coarsened. Clerks in the old teahouses shake their heads sadly as they tell me tea will not come off the ration until the

troubles in Java and Sumatra and China are over.

Though resisting as bravely as possible, I find that the afternoon-tea habit is almost irresistible. By 4 o'clock we can feel the morale of London dropping like a stone. Work slackens as millions prepare for tea.

Each office and every bed-sitting room has its own gas ring or grill and teapot, or else a well-trained runner to fetch a steaming jug from the teashop next door. Road-construction gangs bring out their braziers to do their own brewing, or detail a man to carry a galvanized iron bucket to the corner shop for tea. Not long ago I passed a workman heating his teakettle with a blow torch.

Taxi drivers line their cabs up at a portable union house, placed on some quiet side street, while they enjoy a "spot" of tea and a snack. Teashops and cafes and, in summer, the teahouses in the parks and squares, are filled to overflowing (page 785).

The minutes pass. Tons of tea and bread, butter, jam, cake, and sweets disappear down London's collective throat. Morale rises again; and London is ready to finish its day.

Redding Up

Like the food shopping, which is complicated by the lack of ever-normal refrigerators, keeping oneself and possessions reasonably clean and tidy in London seems to take more time and energy than should be necessary.

London was built in a day when the housewife and "char" were expected to spend their time scrubbing, washing, or ironing, and on top of that the many chimney pots make it a sooty city.

Doing the laundry is a major problem in a city of soap and labor shortages, coal soot, and endless damp. Having lived in Washington, I am used to the impact the war had on the world's wash. But it struck home with greater force when I found that one visiting delegation from Greece found it more expeditious to ship its soiled linen back to Athens by airplane than to wait for London's overworked laundries to get around to their particular bundles.

At one time London housewives waited six weeks for their wash to return. The elapsed time is shorter now, but keeping a clean supply of clothes on hand is a problem of "phasing" as ingenious as any the wartime planners faced. For some odd reason, last winter's coal crisis speeded up our laundry.

The ever-present problem of doing the wash, or of even keeping a dish rubbing cloth dry enough to wipe the china in London's damp air, makes me appreciate one household improvement which Britain is way ahead of America in developing. Many London kitchens are equipped with a drying cupboard or a heated towel rack as a substitute for the missing sun's warmth.

I miss, perhaps more than anything else, a clear, hot, sunny American day which would let me air and dry all the moisture-absorbing wool.

Since vacuum cleaners seem a bit on the fancy side for one room, I exorcise the crumbs from my carpets like thousands of other Londoners—down on my hands and knees with a stiff brush. Maybe it is the time spent on her hands and knees which has given the servant-hunting London housewife a passionate interest in the rebuilding of London with houses so designed that they can be lived in and kept clean with a minimum of fuss and trouble.

Reading, writing, dreaming, and talking about such homes is a major postwar occupation in London today. Yet realists among the new-architecture school know that they must retain at least the symbols of an open hearth, a drying cupboard, and room for cat and dog.

Like an increasing number of reluctant Londoners, we have boarded up the open fireplace in our room and plugged in a small electric "fire" in its stead. We have grown quite used to inside temperatures approximately equal to those outside.

Those Londoners who hold on to their open coal fires perhaps raise the temperature of the sooty fog throughout the city a full degree or two; but the glowing coals tend to cheer rather than warm the inside temperatures.

Adding to the coal-soot dusting and sweeping problem is the rock powder rising every windy day from the bomb rubble and wartime disrepair which is one of Hitler's legacies.

"There'll Always Be a London"

There'll always be a London, and, no doubt, always Londoners. None of the housewives I have talked to ever had any doubts that Britain would win. Of course many of them expected Hitler to invade their island, and a few of the younger women had even gone to spend the late summer of 1940 at places near the coast so that when the invader came they could help the Home Guard fight, though with what weapons I can't imagine, unless they took their carving knives.

Perhaps the invariable kindliness characterizing the London housewife, and her stout belief in cooperation as opposed to the scrambling and shoving I knew in certain places in wartime Washington, stem from the



Staff Photographer B. Anthony Stewart

Overcrowded London Dreams of Airy Apartments as a Heaven with Modern Conveniences

Seven years of neglect have done as much as bombs to make the city look dingy. Now the Borough of Holborn spreads this vision of 162 modern flats, on which work has started. For such flats with central heating, Londoners must give up their cherished one-family houses, chimney pots, and pint-sized gardens.

days of the blitz when, as one of our new friends put it, "you tried to be nice to people, because tomorrow you might not see them again, or they, you."

Or maybe it is older, a traditional civility which is both the right and the duty of the citizen in a place as well established as London.

Even the dogs and cats share the fireside or the front stoop in tolerant respect of each other's centuries-old position of affection in their owners' lives. Grandmothers open doors for and yield their place in the queue to mothers with new babies.

Life is too short to make it deliberately unpleasant. You exchange "pleases" and "thank you's" with the bus conductors. The shopkeepers save tidbits for old people and extra fruit for tots in the perambulators, with general consent. Whatever prompts it, when I see it exhibited as London's homemakers exhibit it, I know that living easily together in a community is man's highest art.

We have been in London a year and a half now. Even during last winter's coal crisis, our flat wasn't so cold as we had been led to believe English flats were normally. Vegetable shortages were at times maddening, but we consoled ourselves with kippers and a bottle of cider, unobtainable at home. In the store windows are beautiful clothes which we haven't the coupons to buy; but then, old clothes are so much more comfortable.

As Dr. Johnson said, "When a man is tired of London, he is tired of life."

And we are not nearly that tired.

For additional articles on England, see "Cumulative Index to the National Geographic Magazine."

Erosion, Trojan Horse of Greece

By F. G. Renner *

STEPPING off an airliner at the Athens airport in May, 1946, I overheard a visitor say, "I have been here for a year and I have yet to see a starving Greek."

On the way to my hotel I passed through Megali Agora, the market place of Athens. There for several blocks quarters of beef, whole carcasses of lamb and veal, tethered live chickens, squealing pigs, and a dozen or more kinds of fruit and fresh vegetables almost obscured the store fronts (pages 798, 800).

During my stay in Athens, I saw many smart restaurants crowded with patrons who seemed to be enjoying the ample supplies of steaks, roasts, lobsters, attractive salads, the ever-present "chips" cooked in olive oil, and rich pastries served with the traditional cup of "Turkish" coffee.

Later, on a visit to Dhiakopton, a tiny village several hours out of Athens, I joined a squad of British soldiers at a tavern for lunch. We were served liberal portions of fresh eggs, fish from the near-by sea, tomatoes, cucumbers, and fresh fruit along with our bottle of *retsina* (resinated wine).

The soldiers, remembering the rarity of fresh eggs and the meager rations allowed their families in England, were skeptical of the stories about "starving Greece."

By this time I, too, was beginning to wonder if the reports of starvation and want had not, perhaps, been overdrawn.

Children Stunted by Malnutrition

I didn't have long to wonder. In nearly every one of the mountain villages I visited I saw children with pot-bellied little bodies, emaciated arms and legs, deep-sunk eyes, and ugly sores around their hair—mute evidence of their condition.

Most of these children looked to be six or eight years old. A few questions, however, usually disclosed that the youngest was nine and the oldest about twelve.

I concluded that the soldiers must have stayed rather close to the main roads. Conditions were vastly different in the more remote areas, and these, after all, make up most of Greece.

Later, I talked to Dr. Irvin M. Lourie, the young, well-trained U. S. Public Health Service officer sent to Greece to help modernize its medical program.

"It all depends on what you mean by starvation," he explained. "At the present time, there is no actual starvation from lack of food. On the other hand, malnutrition is widely prevalent, particularly in the mountain villages and especially among the children.

"Malnutrition has strange effects," he went on. "It saps the energy and robs the appetite, so the children may not even feel hunger. Where malnutrition is common, our studies have shown that children of ten are shorter by an inch, and those of fourteen may be as much as three inches shorter than they would have been if they had been given enough of the right kinds of food."

No wonder the children I had seen were listless and older than they looked!

At the time of my visit the present ambitious program of American aid to Greece had not yet been adopted, although the country was receiving some help from the United Nations Relief and Rehabilitation Administration, to which the United States was by far the heaviest contributor.

Prices High, Salaries Low

The lack of effective controls designed to bring about a more uniform distribution of home-grown foods contributed to widespread hardship.

Except for bread, there was no rationing in Greece. Whatever agricultural produce was raised was sold to the highest bidder. Food supplies were hoarded by speculators until the price went up, or were even exported.

Meanwhile, the millions of Greeks without money to pay the high prices went without. These were some of the reasons why rich pastries were plentiful in the smart shops of Athens (Athēnai).

Furthermore, lack of effective control over prices encouraged inflation. This fact aggravated the poverty that is normal to the average Greek household. While I was there, from May to October, 1946, bread and potatoes sold for 15 cents a pound, cheese for 68 cents, meat for 60 cents, sugar for $1.30, and eggs were 72 cents a dozen.

Except for sugar, these prices may not sound greatly inflated to the traveler from the United States. To appreciate their effect on Greek living standards, however, they must be compared with the earnings of the head of the average family.

From $35 to $40 a month is the usual salary of the better-paid professional man. A few

* The author is Chief of the Range Division, Soil Conservation Service, U. S. Department of Agriculture. He went to Greece in 1946 for the Field Service Branch of the Agricultural Rehabilitation Division of UNRRA and was in charge of the Vouraikos watershed survey.



Lee Stoecker from Arme

An UNRRA Worker Doles Out Thin Soup and Coarse Bread to Patras School Children

One such meal daily, containing 700 to 800 calories, was provided for Greek youngsters under the UNRRA program which ended June 30, 1947. In addition, they were given canned Army rations once a week. This type of relief is inadequate, President Truman said in urging the $400,000,000 program of American aid to Greece and Turkey which Congress adopted last spring and which is now being administered.

higher Government officials or heads of departments in commercial firms may earn up to $60 a month.

On such salaries, is it any wonder they have no luxuries and few necessities? Many of those I came to know live mainly on vegetables and bread. Some have sold their more valuable belongings and are deeply in debt.

A Land of Farmers

Many things might be done to improve conditions in Greece. Inflation must be controlled so the people will get more for what they have. Those made homeless by the war need housing. War-torn railroads and highways must be rebuilt to provide transportation and improve distribution of supplies within the country. Communication facilities should be repaired, schools built, and many industries put back into working order.

These are the immediate and obvious problems. Despite the publicity they have received, however, they are probably the least important of the things that must be done to restore the Greek economy and lift the people out of poverty.

Greece is predominantly agricultural. Nearly two-thirds of all her employed workers are farmers, and an even larger proportion of the population is dependent in one way or another on the production, distribution, or processing of food products.

However, unless something is done to stop soil erosion, unless her farming practices are modernized and her agricultural conditions improved so she can grow more food supplies, there is little chance for any permanent betterment of conditions in Greece.

Some Greek Ministry officials had sensed that the ills of agriculture probably caused many of Greece's basic problems. They had asked for the loan of a group of American



Leo Stuecker from Acme

With American Aid, Democracy Returns to a Cradle of Western Civilization

The Army officer (seated) is one of 692 Americans who observed the Greek elections of March 31, 1946. In an Athens home he and an interpreter (right) question voters on their eligibility and inquire whether they met with any difficulties in registering. President Truman told Congress the observers considered the election to be a fair expression of the people's views.

agricultural scientists who could come to Greece and, in a few large typical areas, make a thorough study of the soils, crops, farming practices, methods of handling livestock, and forest conditions.

From the facts and recommendations of this study, Greek officials could proceed with the conservation and improvement of all the agricultural resources of these areas to raise the living standard of the people. Later, if successful, it was expected that such efforts would be duplicated in other parts of Greece.

Arriving in Athens as the vanguard of that party, I was more than busy the first three days. Charles Panayotides, who was trained in agriculture at the American Farm School in Salonika and at Cornell University, was assigned to our party as interpreter and worked like two men to help us get all our equipment together.

It was a little disconcerting to find all offices and stores closed between 2 and 4 for an afternoon siesta, but we managed to surmount even that difficulty. Everyone was friendly and enthusiastic about our plans.

By the fourth morning we were ready, and leaving Athens we drove out past the American Army cemetery on our way to Corinth (Kórinthos).

Billboards in Ancient Corinth

Two hours later we paused on the temporary wooden bridge across the famous Corinth Canal. Below us, lying half out of the water, we saw the ship the Germans had sunk to prevent use of the canal.

From the canal we wound our way over a temporary road lined with signs advertising steaks to be had at Mike's, the establishment of a Greek American who has introduced roadside advertising to ancient Corinth.

From the hillside above the town we had



Lee Stoecker from Acme

Plenty of Market Baskets, but What to Put in Them?

Greek individual industry is exemplified by these basketmakers in an Athens sidewalk factory. Their products sell for 90 cents; the prewar price was 25 cents. Restoration of physical resources, rehabilitation of the people, and inflation control are among Greece's chief tasks. America's help is needed to achieve these aims, President Truman told Congress on March 12, 1947.

our first view of the deep-blue waters of the Gulf of Corinth (Korinthiakòs Kólpos), a view which in the hours to come was to help compensate for a bone-jarring ride as we followed the shoreline of the Gulf all the way to Patras (Pátrai).

The highway had once been paved, but after the pounding it had taken from the tanks and trucks of four armies, and with no maintenance to speak of for more than five years, it was a network of chuckholes.

The decline of agriculture in Greece, which means the decline of Greece itself, is dramatically written on the surface of the land. Signs of destructive erosion are everywhere. In the 90-mile stretch between Corinth and Patras we jounced our tortuous way across the boulder-strewn beds of twoscore dry rivers.

During the torrential rains which start in September, these same rivers carry tremendous loads of silt and mud down from the mountains. They wash out the railroad and highways and destroy crops along their lower reaches.

Sometimes the rivers drop their loads in the upper valleys, thus partially blocking their own outlets and forming marshy areas. These become ideal breeding grounds for the mosquitoes which spread the malaria that has had such a debilitating effect on the Greek people.*

In many places Greek engineers have built walls alongside the rivers in costly and vain attempts to confine the streams to their channels. Such walls are effective only until the river bed fills up—a matter of a few years. Then the rivers overtop the retaining walls, spread out in new channels, and continue their devastation.

* See, in the NATIONAL GEOGRAPHIC MAGAZINE for February, 1944, "Life Story of the Mosquito," by Graham Fairchild, and "Saboteur Mosquitoes," by Harry H. Stage.



Drawn by Theodora Price

Bare Ribs of the Greek Land Cry Out for Help as Urgently as Her War-emaciated People

American agricultural scientists went to Greece to aid in diagnosing the war-battered country's farming and stock-raising ills. They found fields and forests of the mountainous land denuded by centuries of overgrazing, unrestrained timber cutting, and outmoded farming methods. Reclamation, they reported, will require re-education as well as modern labor-saving farm machinery. Most rivers dry up in summer, but copious year-round springs simplify irrigation. The author's observations were largely centered about the Vouraikos watershed, between Patras and Corinth.

This destruction can be stopped, but only by better management of the lands in the upper watersheds.

Leaving Patras early the next morning, we headed for the Vouraikos Valley where the Greek Government had requested that we start our study of agricultural conditions.

Kalávryta in Ruins—Three Years After

We had planned on making our headquarters at Kalávryta, largest of the 18 villages in the valley, but when we got there we found it in ruins. Nearly every house, as well as the one hotel, the school, all of the village shops, even the church, had been practically destroyed (page 801).

We had been told that the village had been damaged during the war, but we had not expected to find such devastation nearly three years later.

It seems that the partisans had ambushed an enemy patrol during the occupation and, in reprisal, the German colonel at Patras had sent two companies of infantry into the valley to punish the inhabitants. All men and boys over fourteen years of age in Kalávryta were rounded up, taken up on the hillside above the village, and machine-gunned.

The accounts vary as to just how many were killed. George Lamprines, one of the thirteen survivors, told me that there were approximately 1,100. Nine hundred and fifty were from Kalávryta alone.

After the shooting, the soldiers returned to the village and systematically attempted to destroy every building. Being stone, the walls didn't burn, but the floors, ceilings, and woodwork were ruined and the roofs collapsed.

This happened in the middle of the winter with snow on the ground. With December 13,



Leo Stoecker from Acme

Athens's Pushcart Market Offers Food for Those Who Can Pay Sky-high Prices

These open-air stands, spread over several blocks, display many of the necessities sold in Greece's capital. Many of the merchants are farmers. Food, pottery, kitchenware, and clothing are offered to persons well supplied with drachmas. Inflation and shortages keep others hungry and ill-clad.



Leo Stoecker from Acme

A Mountain Spring Refreshes a Young Shepherd

He grasps his crook and on his back he carries his family's copper-bottomed washtub, to be filled and taken home. His sheep graze on a rocky hillside near this scene of primitive, almost Biblical simplicity in the Greek hill country near Patras, in the Peloponnesus.



Staff Photographer B. Anthony Stewart

Dawn-to-dusk Drudgery Is the Greek Woman's Lot

With her child riding pickaback, this barefoot mother plants potatoes near a Peloponnesus village. Women often walk four or five miles to labor in the fields, then return home for more hours of household toil. Children assist with farm work as soon as they are able.



Keystone Pictures, Inc.

Inflated Prices Keep Meat Far Beyond the Reach of Most Greek Families

This butcher's shop in Athens employs a boy to whisk flies off the carcasses. In Megali Agora, the capital's market place, the author in 1946 saw large stocks of beef, lamb, veal, fish, poultry, fruit, and vegetables. Such foods were hoarded by speculators to drive prices up; only bread was rationed (page 793).

1943, carved on nearly every family tombstone in the village churchyard, it is not likely Kalávryta will soon forget that tragic day.

As there was no place to stay in Kalávryta, we continued up the valley another nine miles to Kertezi.

Reaching there, I asked Charles to inquire for the community president, an official corresponding to the mayor of an American town. We were directed to the home of Panayotis Samarjopoulos, whose hospitality proved to be as generous as his name. While his wife served us tiny, delicious, sugar-coated cakes, he dispatched a small boy to hunt a house for us.

We were in luck. There was one vacant house in the village and a fairly new one at that. The owner had left the key with a neighbor and had departed for America—where, it seemed to us, all Greeks would like to go.

After giving the premises a precautionary spraying with DDT, we soon had our bedrolls and supplies unpacked and were comfortably settled in the house that was to be our headquarters for nearly five months.



Lee Stoecker from Arms

Kalávryta, the "Greek Lidice," Virtually Destroyed by a Vengeful Enemy, Mourns Its Dead and Prays for a Brighter Day

At tables sit some of the men who have returned since the massacre of December 13, 1943. Here German troops, in reprisal for a partisan ambush, killed at least 1,100 men. They then burned most of the houses with the same ruthlessness which marked their wartime destruction of Lidice, in Czechoslovakia (page 797). Last year American 4-H Club boys accompanied a shipment of livestock from Mississippi to Kalávryta.



F. G. Renner

Girl and Goats Make a Familiar Greek Picture

At an age when children of other lands would be in school, this young shepherdess spends most of her time tending flocks on a hillside near ravaged Kalávryta. With many other duties, such as cooking and weaving, she has little opportunity for education or recreation.

We thought, too, we might learn something of the agricultural history of the valley from their centuries-old records.

On our arrival, the Bishop insisted that we join him and two of the monks for lunch. We had our K rations with us, however, so we compromised by lunching together.

The monks brought out a plate of goat's-milk cheese—pure white and cut into small squares—a loaf of brown bread, and a dish of lemon-flavored honey, while we opened our ration boxes.

Our hosts were intrigued with the candy, pimento-flavored cheese, cooked eggs, and bacon from our K rations, and with the "wine" we made from the grape powder and a glass of cold water. I suspect, however, that we both preferred our own kinds of food.

After lunch we climbed to the monument. With the valley spread out far below us, we spent a couple of profitable hours discussing agricultural problems and what needed to be done.

A landmark of our valley was a conspicuous monument on the top of the mountain close by Hagia Lavra. This is the monastery where in 1821 the revolt started which resulted in Greek independence in 1830. The richly embroidered religious banner around which the patriots rallied was borrowed from the monastery and is still preserved there in the tiny museum; a reproduction is carved in stone high up on the monument.

Knowing that the monastery owned considerable land in the valley, which was leased to the peasant farmers, and appreciating the influence of the monks in community affairs, we were anxious to secure their cooperation (page 807).

The Bishop was well aware of some of these, and was quick to point out that if the swamplands were drained there would be more land for crops. He was less familiar with the reasons why the river channel was continually filling up with erosion debris, or why drainage alone would be ineffective without a better cover of vegetation on the surrounding mountainsides.

Crops on Steep Hillsides

When we pointed out conditions in the monastery forest at our backs and contrasted them with the barren, overgrazed, and eroding slopes on the opposite side of the valley, he quickly saw the point and promised to help

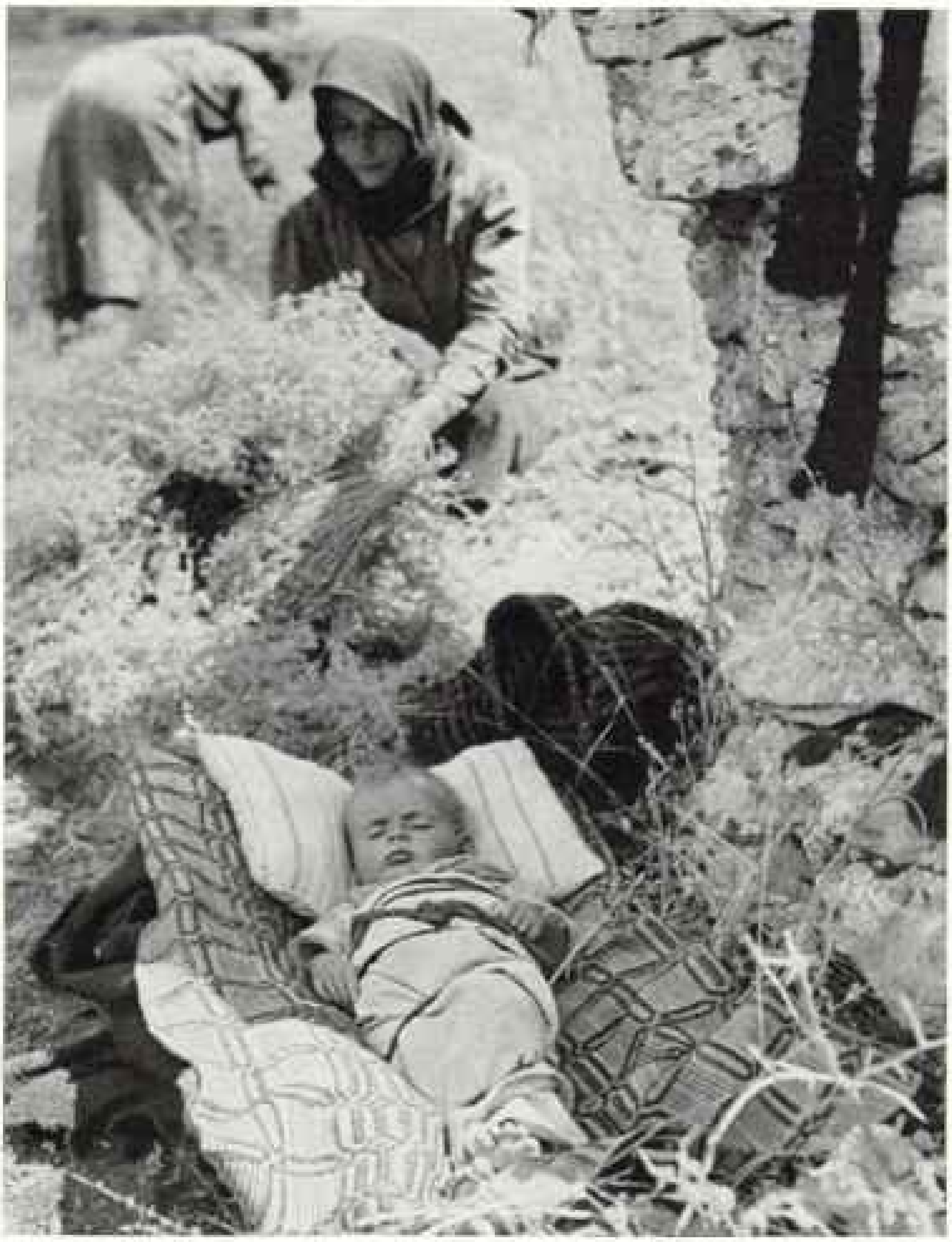
bring about better use of these lands.

In the Vouraikos watershed much of the land now in crops is too steep to cultivate safely under any circumstances. Wheat is planted on slopes of 40 percent and more, and up to the very tops of the high mountains. Under these conditions serious erosion is inevitable.

A fourth of the cropland in this area had been abandoned because it had lost so much soil that it was no longer productive. These lands now grow only thistles, which even the goats disdain.

Far back in the canyon above Kertezi I came across ruins of two very old gristmills. On the slopes above them, the remains of terrace walls provided evidence that wheat had once been grown there.

Aristos Kosmopoulos, oldest inhabitant of the village, told me that, as far back as he could remember, the lands around the old millsites had always been in brush and timber. Probably a century or two has gone by since that land was last under cultivation.



© Costa Emmanuel from UNRRA

No Baby Sitter Problem Here!

Greek farm women labor in the fields 250 days a year. Usually they take their infants along and watch over them while working. Here a baby dozes contentedly in the shade of a rock while mother harvests lentils near Lagovouni, southeast of Kertezi.

It is clear that destructive erosion has been going on in Greece for a long time. As more and more of their land has washed away, the people have become poorer and poorer.

Cover Crops Little Known

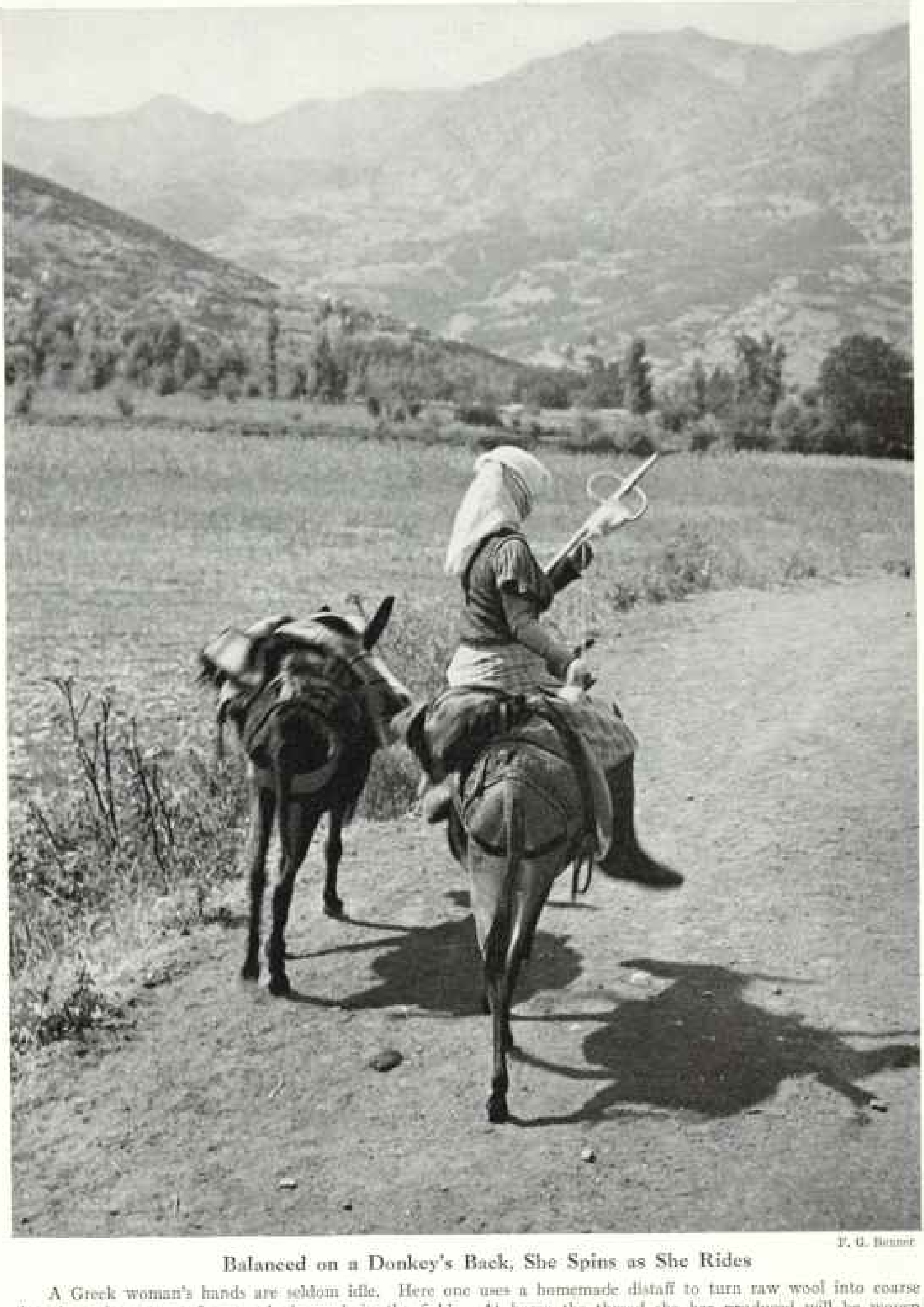
Erosion cannot be prevented on the steeply sloping lands so long as they are planted to wheat. If they were planted to ryegrass and sweetclover, erosion would be checked and there would be a great deal more forage for the ill-fed livestock. With more feed for the animals, there would be more of the milk, cheese, and meat the people need so desperately.

Cover crops to protect the bare fields in the fall and winter after the wheat and corn are harvested would also help prevent erosion.

Although alfalfa was introduced into Greece over 2,000 years ago and a few small patches are grown for hay, few farmers have ever heard of its modern use as a cover crop.

Vetch, wild peas, and many kinds of clovers also grow wild in the mountainous sections, but nowhere were there signs of attempts to domesticate these valuable plants.

One day while working near the village of Priolithos I met George Mavraganis, a farmer, and told him about the ability of these plants to take nitrogen from the air and add it to the soil.



F. G. Bonner

Balanced on a Donkey's Back, She Spins as She Rides

A Greek woman's hands are seldom idle. Here one uses a homemade distaff to turn raw wool into coarse thread as she returns from a day's work in the fields. At home the thread she has produced will be woven into cloth. Her village, Kertezi, nestles in a canyon beyond the low ridge (left).



Lee Stoecker from Anne

Barefoot Urchins Peddle Water near the Central Market of Athens

Their close haircuts were provided by UNRRA—and followed by a DDT rinse. Their clothes, from the same agency, are castoffs from more fortunate lands. United States Public Health officers found little actual starvation but widespread malnutrition among Greek children (page 793). One result has been a doubling of the prewar tuberculosis rate.

With characteristic interest of most Greeks in the phenomena of Nature, he immediately wanted to know how he could "capture these godlike plants" and put their "supernatural" powers to work on his farm.

I suggested that if the seeds were collected and sown between succeeding crops of corn and wheat, they would prevent much of the erosion, enrich the soil, and also increase the supply of green forage for livestock. He seemed to welcome this advice.

Farming practices in Greece have changed little since the time of Alexander. Everywhere I traveled I saw farmers still sowing their corn broadcast by hand, often while the ground of the more level fields was yet cold and waterlogged from winter rains and snows.

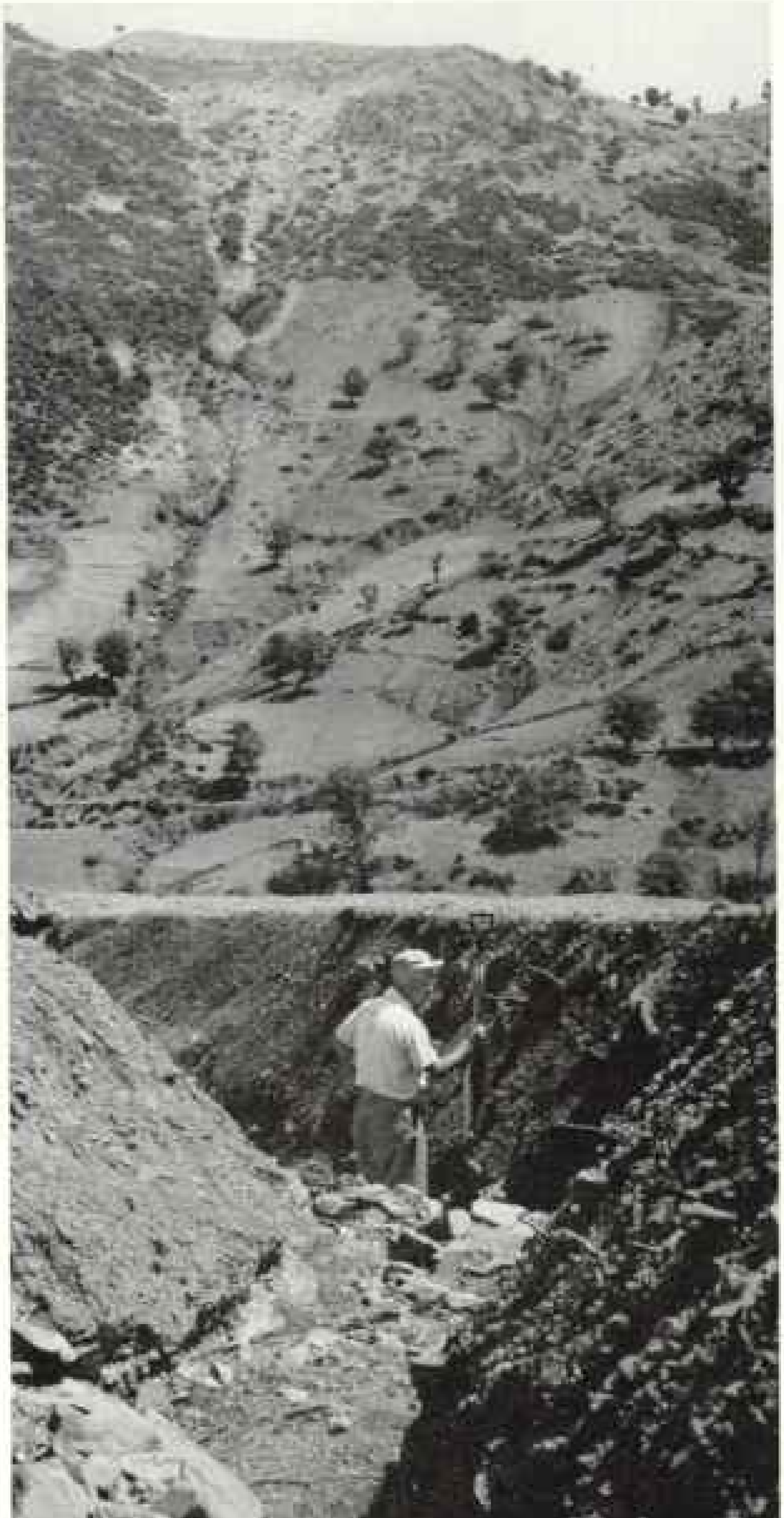
Believing their soil too poor to produce a bountiful crop from normal amounts of seed, they sow an abundance of both corn and wheat. Sometimes as much as half their seed is thus wasted. Too many plants competing for food reduce the yield rather than increase it.

Plows Still Drawn by Oxen

After sowing, the grain is covered by a crude wooden or iron-pointed plow drawn by oxen. For those families too poor even to own draft animals, the farmer and his wife have to break the ground with a heavy hoe. This is a backbreaking job.

Since the seed is sown broadcast, cultivation can be done only by hand and the weeds are laboriously chopped down one by one.

There are few idle hands in Greece during the growing season; at harvest time even the



Claude Fly

Erosion Is the Core of Greece's Tragedy

An American agronomist examines tons of soil recently washed down from upper slopes in the Vouraïkos River watershed. A mission of Department of Agriculture specialists headed by the author found that loss of productive topsoil from centuries of unwise farming methods has contributed heavily to Greek poverty and political unrest. These conditions will change only when the land is properly cared for, the experts report.

children spend long hours in the fields.

As soon as the wheat is ripe, it is cut with a small hand sickle and bound in small sheaves (page 810). These are loaded on the back of a donkey and carried to the threshing floor near the village. There the wheat is trampled out by the slow-moving Greek ponies or oxen.

Big tractors or other kinds of power-operated farm machinery would be of little use in the mountainous areas of Greece. The fields are too small, too steep, and too cut up with walls, ditches, and hedgerows to operate such equipment effectively, even if the farmer had the money to buy it.

Such machinery has been ordered by enthusiastic officials and sent to Greece during the last two or three years. Probably a lot of it will not be used and will rust away or be sold to other countries.

On the other hand, the Greek farmer could make good use of certain kinds of machinery that would save labor and increase crop yields.

For tilling the land properly the farmers need light, sturdy steel plows and cultivators that can be drawn by one horse or mule. These would supplant the crude wooden plow.

A one-horse corn-and-bean planter with a fertilizer attachment would probably pay for itself in two or three seasons by saving seed and increasing yields.

A small grain drill would be equally valuable. A light mowing machine that could be drawn by one horse would be a boon to keep down weeds, mow pastures, and harvest hay and wheat. Thousands of hours of hand labor now go into these activities.

A village or a group of farmers might buy equipment that the individual who owned only a few acres could not afford. A small combine, for example, would thresh all the grain for the two or three hundred families of a village. Wood saws, hay presses, and even cement mixers might also be owned cooperatively.

Although Greece grows many kinds of fruits, vegetables, and grains, few of the high-yielding varieties developed by modern plant



F. G. Renner

A Greek Orthodox Priest Rides to Church, with Lunch for His Donkey Tied On Behind

An umbrella shields him on the journey from Hagia Lavra Monastery (page 802) to Kertezi for Sunday services. His mountaintop retreat was burned by Germans after they discovered that the monks had sheltered two American flyers who bailed out of a crippled bomber returning to Italy from an attack on the then enemy-held port of Piraeus (Peiraievs).

breeders are known to the farmers. Much of the corn is an ancient eight-rowed flint type. The ears are about the thickness of a broom handle and five or six inches long. The yield ranges from 12 to 15 bushels to the acre.

In many of the mountainous sections, half or more of the irrigated land is in corn. By the introduction of modern hybrids or of other good varieties, yields could be doubled. With the long growing season and with irrigation possible in most sections, improved varieties of hay and pasture grasses, apples and pears, and potatoes, onions, and other vegetables could profitably be introduced.

Irrigation has been practiced in Greece since very ancient times, but there are still numerous areas where yields can be doubled and tripled by better irrigation practices.

Rivers Dry Up in Summer

Most of the rivers dry up in summer, but mountainous areas have many large springs that flow the year round. In one small area in the vicinity of Kalávryta, I found 19 springs that had a combined flow of over 8,000 gallons a minute. Some of this water was being used for irrigation.

A nearly equal amount was flowing down



Costa Emmanuel from UNRRA

Grandmother Spins While Regaling the Youngster with a Story

Her twirling spindle receives coarse thread from a ball of wool on the distaff (right). In mountain villages of the Peloponnesus, where the author surveyed the destructive effects of soil erosion, entire families are clothed from wool of their own sheep. Uncontrolled grazing has so reduced forage that animals, like people, lack food.

the Vouraikos River to the Gulf of Corinth, lost to any beneficial use, while nearly half the irrigable land in the valley lay idle for lack of water.

Where irrigation is practiced, the methods commonly used waste much water. The ditches are open and shallow, with consequent high losses from evaporation. They usually run along a donkey trail where the animals kick them full of rocks or trample down the banks and cause bad breaks.

Even where water is scarce, such crops as corn, beans, and potatoes are often overirrigated and the ground soaked to a depth of four to five feet when a thorough wetting of the first few inches would suffice. This not only wastes valuable water but also waterlogs and compacts the soil, raises the water table, and reduces crop yields.

I saw one bean field where the ground had been so completely soaked that the plants were unable to get oxygen from the soil and were turning brown. The owner, misled by the dry surface of the ground, had concluded the plants were dying from lack of water. He was preparing to irrigate them further, even though the lower four inches of their roots were already in mud.

Improvement in irrigation methods, which would add so greatly to Greece's food supply, would be both simple and inexpensive. All of the many farmers to whom I talked were eager to learn



If there were less grazing, the vegetation would thicken and stop much of the erosion that is washing down so much soil and rock and covering up the better farm lands in the valleys.

Less grazing would also increase the forage; consequently, there would be more wool, milk, and meat as the animals improved in condition, even though they were fewer in number. As the erosion was cut down, drainage conditions would get better in the valleys. A good deal

the mountains, and oak and other hardwoods on the intervening slopes and along the streams. The years brought a gradual and almost complete change.

By the fifth century after Christ Greece was forced to import carpenters' and joiners' wood from Asia Minor and Italy. Even fuel was becoming scarce around such cities as Athens. Much timbered land was cleared for wheat and other crops needed by the ever-growing population.



Costa Emmanuel from UNRRA

Haunting the Greek Villager Is the Constant Specter of Fuel Scarcity

Homeward bound from the fields, this girl leads a donkey and a pony laden with precious wood for cooking and heating. Even green oak along the roadsides is cut. In the Vouraikos River area, forests have been reduced to brush by uncontrolled cutting and by grazing of the sprouts by sheep and goats.

Now not over five percent of the country is forested. Cutting of the larger trees for fuel, coupled with constant grazing of the sprouts by goats and sheep, has also reduced most of the original hardwood forest to brush a foot or two in height.

Most of the maples, hackberry, myrtle, and other hardwoods, and their intervening stands of rich grasses, have long since been consumed by the hungry animals. Only the harsh, prickly-leafed oak and an occasional wild pear tree remain to protect the rocky soil from the driving winter rains.

Fuel Seekers Comb Countryside

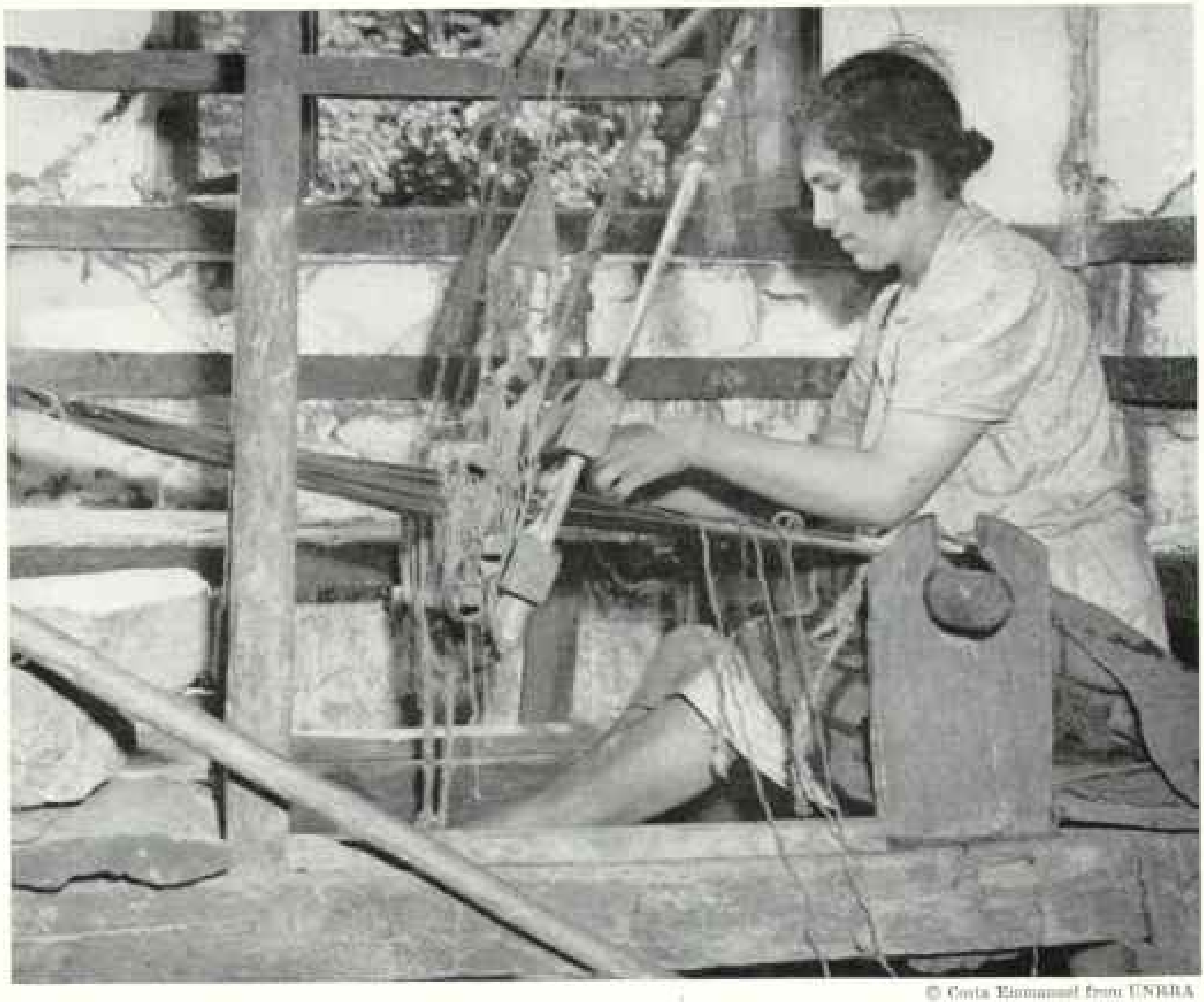
Under such conditions, the worry of being without fuel is a constant specter that walks beside each villager. Everything that will burn and is not needed for some other purpose is carefully gathered.

While the men and women are in the fields, the children comb the surrounding countryside for sticks. Even the green oak brush along the roadsides is cut and packed home to cook the evening meal or to heat the rude stone houses.

In months of travel in Greece I never saw a donkey or the small Greek pony on its way to the village without a load on its back. If it wasn't carrying corn, beans, wheat, or some other crop from the fields, it was loaded with sticks or brush for fuel.

In midsummer, as soon as the wheat is harvested and threshed, almost the whole village moves up into the canyons to the fir timber to get out the winter fuel supply. While the men and older boys fell the trees, the women and children cut them up in lengths short enough to be loaded on the donkey.

During the late summer it is a common sight to see a hundred or more donkeys strung out over several miles of mountain trail, all so heavily loaded that it seems only their ears protrude.



© Costa Emmanuel from UNRRA

Home Weaving, a Lost Art in Many Countries, Is an Everyday Task in Greece

In many villages there is no cloth to be bought. Each home, like this one at Kertezi, has a loom and supplies its clothing needs from the wool of its own sheep. The author's UNRRA survey mission found Greek housewives badly overworked, and recommended a program to ease their burdens.

It would take time for the mountain villagers to restore their forests to the point where they would have sufficient fuel, but they could do it very easily. A quick way would be to set aside a few acres of oak brush close to each village and keep them from being grazed by sheep and goats.

Under protection the oak brush would soon grow to tree size and produce several times the amount of fuel now possible. If there were two or three such areas for each village and the cutting alternated between them, in a few years there would be ample fuel for all.

Ills of Agriculture Are Fundamental

Many of Greece's real problems, poor health and poverty with all their attendant evils, are traceable to the ills of her agriculture.

Malaria would largely disappear if the swamplands were drained and the upland farm lands were better managed.

A diet of bread should not be necessary where such a variety of fruits and vegetables can be grown under irrigation.

Cheese, milk, and other dairy products should be plentiful in a country where irrigated pastures can equal any in the world.

Widespread poverty from farming eroded lands should not be necessary where a few simple conservation practices, generally applied, would double or quadruple the yields of agricultural crops.

With much of the country still potentially forest land, there is no reason to lack fuel.

These are the challenging problems which confront Greece. Unless something is done about them, the health of most of the people will continue to be poor and living standards low, regardless of how much is spent to modernize and repair her industries and public facilities.*

* For additional articles on Greece, consult "Cumulative Index to the NATIONAL GEOGRAPHIC MAGAZINE, 1899-1946."

Carnival in San Antonio

By Mason Sutherland

With Illustrations by Staff Photographer J. Baylor Roberts

SINCE its foundation as a Spanish colonial outpost San Antonio has been the Southwest's capital of carnival. Here people from the Deep South, the West, and Mexico have met to have fun.

Under the flags of Spain, Mexico, Texas, the Union, and the Confederacy, San Antonio has lured adventure seekers of many lands.

Once the rules allowed cowboys to drive "well-behaved" ponies up to the bar of the Buckhorn Saloon. Now the Buckhorn is a curio shop (page 815), and the other bars are beer parlors or package stores, but carnival continues.

Each year in April the city celebrates the week-long Fiesta de San Jacinto, commemorating the battle in which Texas won her independence (Plates VI and VII).

Nothing but his city's flash floods seems to surprise the San Antonian. For tolerance and urbanity he yields nothing to New Yorkers or San Franciscans.

He may be a retired general, an oil baron, one of the cattle gentry, a descendant of Spanish hidalgos, a German brewer, or an obscure Joe Doaks. No matter; on balmy evenings he is out in shirt sleeves promenading Houston, Commerce, or St. Mary's Street, or Alamo Plaza. Everybody I ever knew in San Antonio had a good time.

Beautiful but Treacherous River

To see San Antonio to good advantage, visit its river by moonlight. Here is the Venice of the Texas plains. Staircases from downtown bridges lead to a canyon 20 feet below street level. Soldiers on grassy slopes and rustic benches woo their girls beneath the misty, fairyland glow of floodlights concealed in shrubbery. Other couples go riding on a concessionaire's flat-bottomed pleasure boats. Gondolier-propelled like Venetian canalboats, these parade below busy bridges (page 827).

To know San Antonio, know the river that cradled the city. It provides no electric power; no tall ships sail into docks. Barely 30 feet wide and two feet deep, it is crooked and treacherous. Whether it brings flood or visitors, the city loves its river.

Twice within memory the San Antonio River has caught a sleeping city unawares. A major disaster such as that of September, 1921, was partly prevented in the flood of September, 1946, by Olmos Dam, a barricade built in the intervening years, and by a cutoff channel by-passing the business area's "big bend."

The river bubbles up from springs on the outskirts of the city and its waters flow 150 miles to the Gulf.

Coiling through the city, the stream takes 15 miles to travel seven. In the business district it snakes around a three-quarter-mile loop only three blocks short of being a complete square. The downtown visitor confronts its banks wherever he goes. Indians who noted its dizzy course called the river "Drunken Old Man Going Home at Night."

Tall Trees Beside Skyscrapers

Having left San Antonio in 1923, I remembered the river as a sluggish, slimy green ditch. Upon my return recently I found it transformed by the beautification project of 1939.

The river's face lifters dredged out rusting wagon wheels, cannon balls, and pistols. Then they shored up the banks with concrete walls and laid out flower beds and flagstone walks.

Today every vista shows a pleasing curve; shady walks weave among old trees. Gnarled figs, weeping willows, and palms shade a park a mile and a quarter long. Tall cypresses and pecans, soaring from sunken gardens, arch the river. Retama, a spiny desert shrub, explodes in yellow blooms.

I went down to the river one starlit morning when mockingbirds saluted the dawn. Beyond the landscaped portion a footpath led me into a jungle lining residential areas. Carrizo, a bamboolike grass, grew ten feet high. Mossy water growths waved sea-green beards.

Occasionally a mansion spread a clipped lawn to the bank. Elsewhere the jungle maintained an enclave within the city. Only factory whistles and the rumble of board bridges broke the wilderness spell.

The Alamo, Shrine of Texas Heroes

San Antonio grew up along its river; beside it the Spanish padres founded five missions.

Yanaguana, the Indian village that preceded San Antonio, was already old on May 1, 1718, when Father Antonio de San Buenaventura Olivares established Mission San Antonio de Valero on the site of the present Alamo. Four days later a Spanish military expedition founded the neighboring Villa de Bejar. From



Weather-beaten Texas Cattlemen Dress for Comfort

Every market day in San Antonio, raisers of cattle, sheep, goats, and hogs gather at the Live Stock Exchange Building, Union Stock Yards. They have three favorite topics: the sorry state of world affairs, the prevailing livestock prices, and the hardships experienced by old-time drovers. Pioneer cattlemen always judged a town by the size, condition, and watering facilities of its stock pens (pages 842 and 844).

these two settlements, city and county (Bexar) took their names.

Mission San Antonio, secularized in 1793 and converted into a fort, no longer bears its churchly name. For a century and a half it has been known simply as the Alamo, a name attributed to the *álamos* (cottonwoods) which surrounded it.

As the Alamo, scene of a battle in which every defender died, it became the shrine of Texas liberty. To Texans it is holy ground.

Built in a wilderness, the Alamo today sits in the shadow of its tall neighbor, the Medical Arts Building (Plate I). Its gardens, landscaped in mission style, are walled off from busy Alamo Plaza. The partly restored chapel is all that remains of the old mission.

Here in the Texas War of Independence 187 riflemen stood siege by the Mexican general, Santa Anna, and his army of 4,000 rather than accept his demand for surrender.

On the morning of March 6, 1836, a dreadful warning came from Santa Anna's camp; it was the *degüello*, a bugle call meaning no quarter. As the outer walls were stormed, the defenders fell back within the inner fort. A Mexican sergeant described the scene:

"The attack . . . was at short range—muzzle to muzzle, hand to hand. . . . The crash of firearms, the shouts of defiance, the cries of the wounded and dying made a din almost infernal. The Texians defended desperately every inch of the fort."

After the powder smoke had cleared, 600 to 800 Mexicans lay dead. Every one of the 187 defenders was slain, including five taken alive and shot immediately. Santa Anna ordered the Texans cremated; the funeral pyres smoked for two days. Some fifteen women, children, and servants in the fort were spared.

No wonder the Texans proudly say, "Thermopylae had its messenger of defeat; the Alamo had none."

Texas Avenged; Santa Anna Vanquished

Forty-six days after the battle the Texas army shouted, "Remember the Alamo!" With this battle cry Gen. Sam Houston, on April 21, defeated Santa Anna on the San Jacinto River, assuring Texas of independence.



Gone Are Cowboys Who Drove Ponies Up to the Bar; the Buckhorn's Now a Curio Store

In this famous old saloon Fiesta visitors look over San Antonio souvenirs. Milton Friedrich, son of the founder (portrait, left), displays a basket made of an armadillo's shell, its tail curled as a handle. Horns of Old Tex, the mounted steer, stretch more than eight feet. A full-grown gorilla, likewise stuffed, glowers at passers-by from the store window.

Among the Alamo heroes, these names stand out:

William Barret Travis, the commander. A South Carolina lawyer, the gallant Travis came to the Texas wilderness to practice his profession in a log cabin. In a letter smuggled from the fort he wrote: "I am besieged. . . . I have sustained a continual bombardment for 24 hours. . . . *I shall never surrender or retreat.*" He fell as the Mexicans breached the first wall.

David Crockett, scout and hunter. A former Tennessee Congressman, he is reputed to have told his constituents after defeat for re-election: "You can go to hell; I am going to Texas." His long rifle and coonskin cap were found beside his body.

James Bowie, adventurer and duelist, who gave his name to the fearsome bowie knife. Becoming a citizen of San Antonio, he married Ursula Veramendi, daughter of Mexico's Vice-Governor of Texas. From his sickbed in the Alamo he commanded a cannon and played a fiddle to divert his comrades. In his cot he died fighting.

From schoolbooks and city place names, all San Antonians have become aware of these three; yet a few have never visited the Alamo.

"We have lots of visitors from Latin America and even Mexico," the Alamo's custodian told me. "Local Mexican boys are reverent, remembering this was once a church. They seem to bear no grudge."

Her words reminded me of a story I ran across in 1921, when I was a newspaper reporter in San Antonio. The public schools were preparing a pageant about Texas history. Not a Mexican-American boy could be induced to play Santa Anna, so well indoctrinated were they all as Texas patriots.

Missions Relics of Colonial Spain

South along the river stand other old missions, one within the city limits, three beyond. Once self-contained communities, they had their own farms, workshops, barracks, granaries, libraries, and chapels. Stout walls and garrisons defended them. Works of beauty, they were built with simple tools by Indian artisans taught by Franciscan architect-friars.

When in the 1730's mission bells rang, Indians came to plow or pray, but only a few generations lived under the monks. In 1794 the missions were cut off from Spain and the soldiers withdrawn. Indians took over the lands. Walls and buildings fell into ruin.

With few exceptions, they are now restored.

My guide to the missions was Josephina Niggli, Mexico-born, San Antonio-reared author of *Mexican Village*.

We started our tour at San José. Richest, most influential, and best fortified, it was the "Queen of the Missions." It was founded in 1720, two years after San Antonio was born.

San José's walls contain its soldiers' and Indians' cells. In the church hang three fading paintings, reputed gifts from the King of Spain. Its exterior is celebrated for its so-called Rose Window, a masterpiece of sculpture copied by hundreds of artists. Pedro Huizar, whose ancestors helped create the Alhambra at Granada, did the carving.

For five years he gave his skill to this small space. Legends surround his name; their essence is that, disappointed in romance, he lavished all his love on the exquisite window.

So successful was San José that in 1731 it attracted three neighbors—Spanish missions fleeing east Texas in fear of French encroachment. Two survive as living missions.

One is Espada. Here Miss Niggli and I found 45 families dwelling in the simplicity of their ancestors 200 years ago. Their children attend school in a barrack of the old fort. Bullet scars on a tower are pointed out as signs of a forgotten Indian raid. In the mission chapel the church still conducts masses. Primitive statues are hand-carved from wood; glass eyes and flexible joints lend realism (Plate V).

San Juan Capistrano, left almost as it was when the padres abandoned it, offers an authentic picture of the mission plan in 1731.

Cells in walls remain as Indians and soldiers left them, save for time's disrepair. In one cell we saw vegetables growing out of a dirt floor. Our intrusion disturbed wasps nesting on walls. Mourning doves seemed to cry over the desolation. San Juan, too, is surrounded by descendants of its original settlers.

Mission Concepción, closest to midtown, is best preserved of the four; yet we found its frescoes, executed by the monks with Indians' pulverized stone dyes, fading (Plate IV).

The Slum That Became a Museum

From Espada, outermost mission, a series of dry irrigation ditches has been traced to an old dam site on the river near a venerable section of midtown San Antonio. This community is still known by its Spanish name—La Villita (Little Town). It is a good example of how a city can transform an eyesore into an asset (Plate VIII).

Spain founded Little Town around 1722 to house her soldiers and Indian wards. In turn, Germans, Poles, and Frenchmen occupied it. Finally the fine adobe buildings became slums.

Little Town was a bootleg joint. An old well revealed a deep shelf for hiding bottles. Other wells yielded arrowheads, ox jawbones, and six-inch Spanish keys. I saw these trinkets in La Villita's museum. A gamecock's leg bore a rusted spur. "He died with his spurs on," said a placard.

Today the old houses have been restored as they were two centuries ago (page 826). One is occupied by the manager, Hamilton Magruder, and his wife. Said she:

"We never lived in so comfortable a house. You have no idea how a thick adobe wall can moderate the weather. This house is 15 degrees cooler in summer and 20 degrees warmer in winter."

A few steps away, the municipal outdoor theater spans the river. On one bank is the stage; on the other rise grassy tiers, seating nearly a thousand (page 829).

Once, I was told, when everyone stood for the "Star-Spangled Banner," two soldiers approached in a canoe. They, too, stood up and, teetering precariously, drifted between orchestra and audience. Everyone but the musicians held his breath.

Army Days and Army Ways

Soldiers! During wartime San Antonio appeared a uniformed city. On Saturday nights civilians could scarcely look into downtown restaurants, there were so many soldiers. On an average day the city's eleven military installations contained 100,000 troops. As their families settled down beside them, San Antonio's prewar population, 254,000, rose an estimated 100,000.

Soldiers were not a passing phenomenon. Since the day in 1718 when Don Martín de Alarcón marched the first Spanish garrison into Yanaguana (page 813), the city has acquired a taste for military pay rolls.

Here Robert E. Lee, commander of the Department of Texas, struggled with his conscience whether he should fight in the Civil War or "resign and go to planting corn." Obliged to leave without his belongings, he never recovered them.

In 1870 the city offered 40 acres to the War Department for an Army base. The result was Fort Sam Houston, named for the first elected President of the Texas Republic, a man who strove to avert the State's secession.

Fort Sam, now grown to 3,353 acres, is as much a part of the city as it is of the Army. New Braunfels Avenue, a main thoroughfare, intersects the post. There Geronimo and his Apache band were confined in September, 1886 (Plate IX).



Kodachrome by J. Baylor Roberts

At the Alamo, Shrine of Texans' Devotion, Palms Get a Trimming for San Antonio's Fiesta Week

On March 6, 1836, a Mexican army stormed the fort, formerly a Spanish mission; all 187 defenders died. The Battle of San Jacinto six weeks later won Texas independence. Fiesta Week celebrates that victory.



II

Ektachrome by J. Baylor Roberts

As the Fiesta Begins, San Antonio Gets into Costume and Daughters of Texas Trail Drivers Spread the Alamo Flag



Humble Sunbonnets and Calico Honor Pioneer Women

For Fiesta Week many San Antonians dress in Western style. Cowboy boots and ten-gallon hats, not uncommon at any time, blossom forth everywhere. Blue jeans and pink shirts color the streets. Salesgirls in some stores go to work in rodeo attire.

These Daughters of Texas Trail Drivers make grandmother's plain dress their uniform as they meet in "Little Town" (Plate VIII). In downtown parades they ride old-style range wagons. Before railroads came to the Texas ranch country, their fathers drove herds of longhorns to Kansas and other States. Few old-time herders survive. Once a year the Old Trail Drivers Association of Texas gives a frontier-days dance.

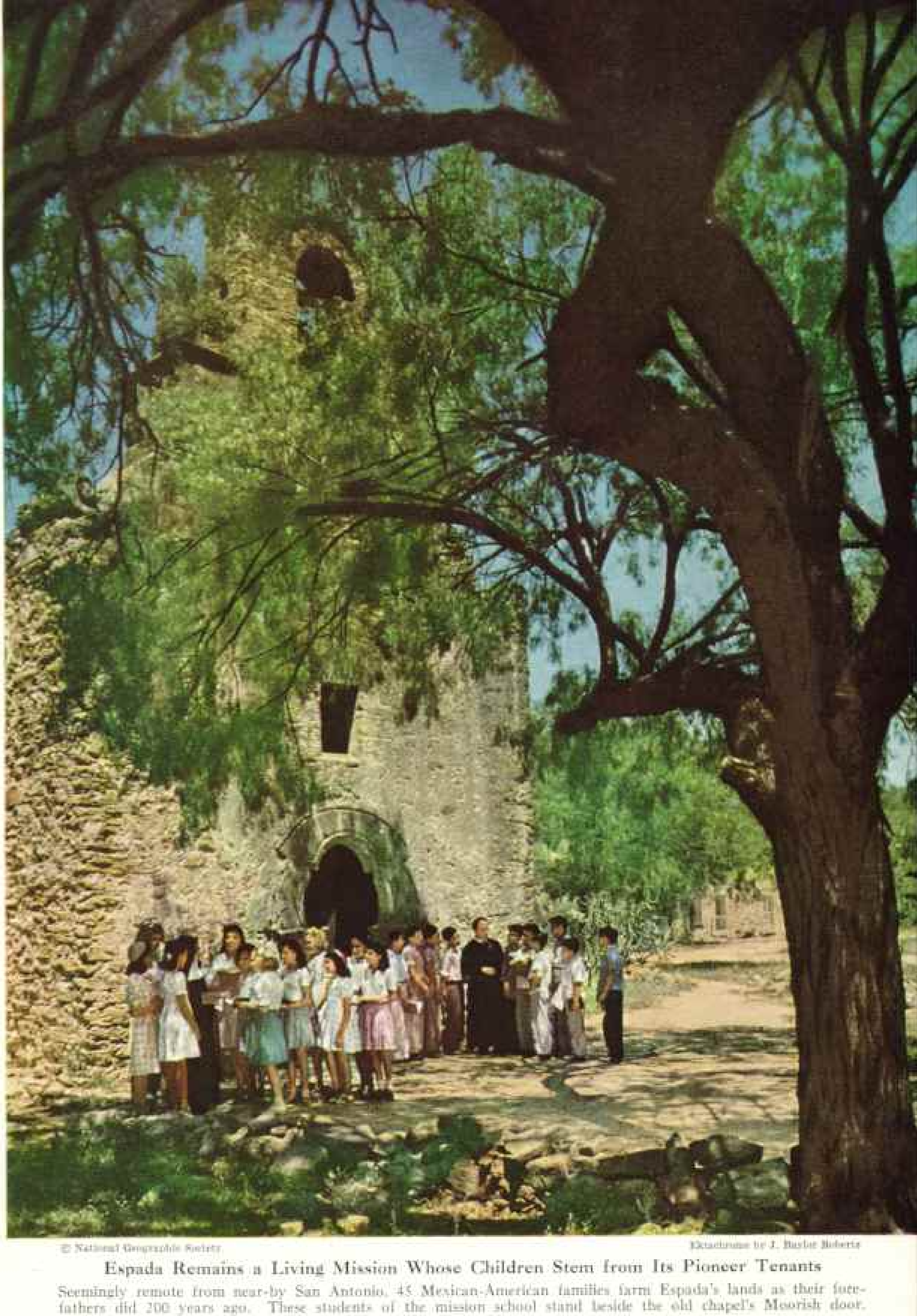
Kodachrome by J. Baylor Roberts



Ektachrome by J. Baylor Roberts

Every Visitor Tours the Missions, Where Monks Taught Indians to Plow and Pray

This is Concepción, best preserved of four missions beside the San Antonio River. Founded in east Texas, it moved here in 1731. Fading frescoes in the interior were done by Spanish padres with Indians' crushed-rock paints.



Ektachrome by J. Baylor Roberts

Espada Remains a Living Mission Whose Children Stem from Its Pioneer Tenants

Seemingly remote from near-by San Antonio, 45 Mexican-American families farm Espada's lands as their forefathers did 200 years ago. These students of the mission school stand beside the old chapel's Moorish door.

Battle of Flowers Floats Pay Homage to Beauty at Carnival's Climax

In San Jacinto Week, floral chariots roll in San Antonio as they do in Valencia, Spain. The annual fiesta in April, 1947, was the 52d. All the floats in the Queen's section represented holidays; this one, the Fourth of July.

The Army participates in the city's festivities; its troops march, its trucks pull floats. Soldiers (left and right) attend the parade beauties. Spectators choke the streets. In some spots the crowds use boxes, chairs, stepladders, and even ironing boards as perches.

San Antonio, which "sells" its balmy climate, was mortified in the presence of visitors last April 25 when an unseasonable norther cut attendance.

Kodachrome by J. Baylor Roberts





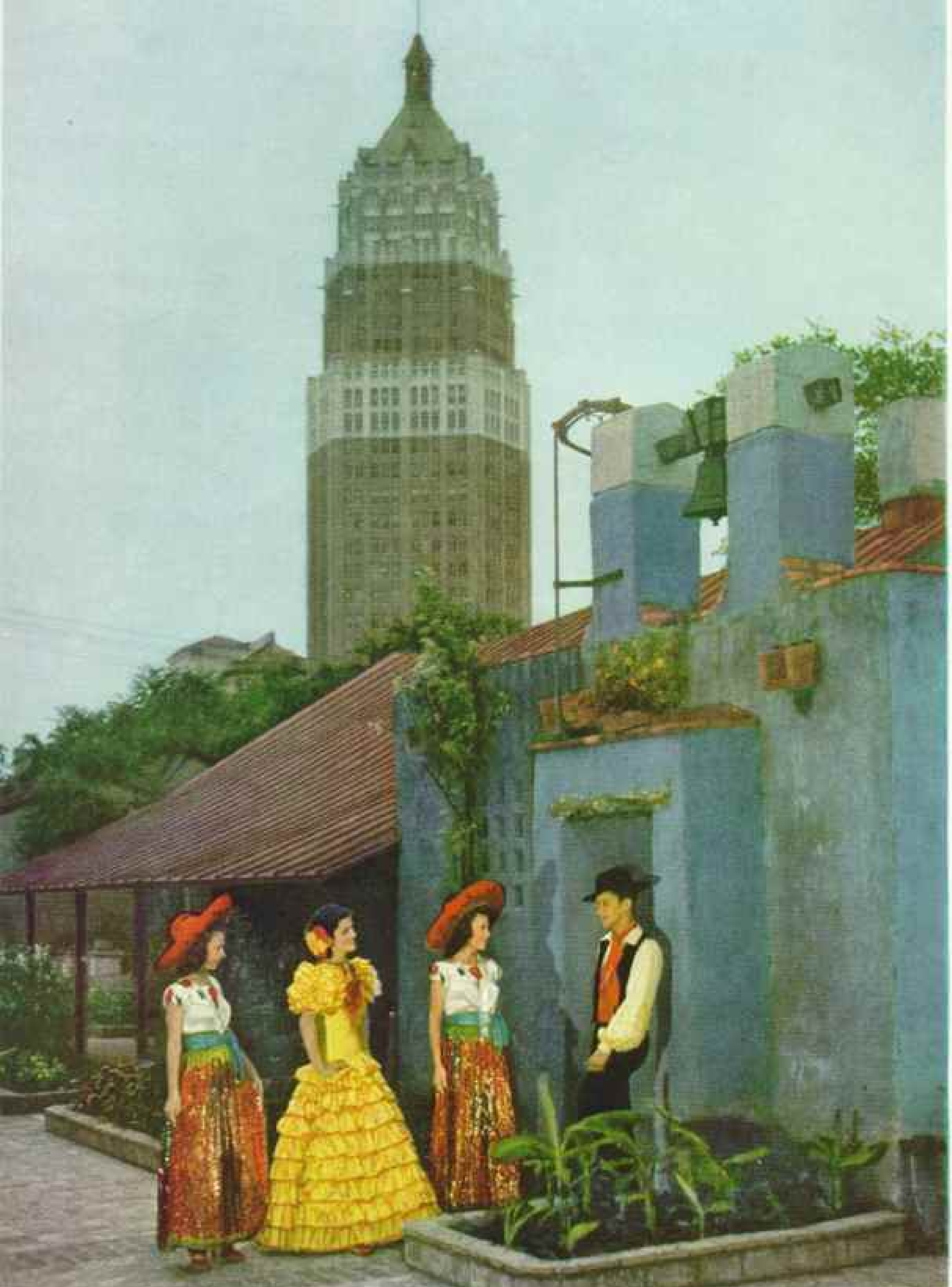
Ektachrome by J. Baylor Roberts

Dark Eyes Flash in the Patio of the Spanish Governors' Palace



Kodachrome by J. Baylor Roberts

Latin-American Night Salutes Good Neighbors



Kodachrome by J. Baylor Roberts

One-story "Little Town" Looks Up at 31-story Transit Tower—Two Centuries Apart

Spaniards called this section La Villita. Restored as it used to be, Villita has become a museum of the past and social center of the present. These costumed entertainers make it their Fiesta Week headquarters.

Training for the Spanish-American War, the Roughriders camped at the fair grounds. Their second in command, Theodore Roosevelt, paraphrasing the San Jacinto battle cry, told them: "When we get at the Spaniards, I want your watchword to be, 'Remember the *Maine.*'"

In 1916 John J. Pershing left San Antonio for Mexico to lead his expedition against Villa. Coming back as commander of the Southern Department, he was soon called to command the AEF in France.

It would be difficult to name a leading American general of World War II whose professional career had no San Antonio background. Douglas MacArthur, son of a major at Fort Sam, attended a military academy here. Young Second Lt. Dwight Eisenhower coached another academy football team. From Japanese prison camps Gen. Jonathan Wainwright came back to be commander of the Fourth Army at its San Antonio headquarters, until his retirement last August 31.

Cradle of the Army Air Forces

At Fort Sam Houston the Army Air Corps hatched out in 1910. Lt. Benjamin D. Foulois, assembling a gasoline engine and some bamboo poles, catapulted the crate off the ground. To teach the Army to fly, Congress allowed a wrecked biplane and $150.

By the time World War I rolled around, the Army was convinced that San Antonio had good flying weather. Kelly Field, that war's famous flying school, was opened in April, 1917. Within eight months it swarmed with 32,000 men. Kelly had the first schools for air observers, air navigators, and bombardiers.

Carl Spaatz, Ira Eaker, Jimmy Doolittle, and other future air generals got their training there. In 1943, Kelly and Duncan Fields merged to become the San Antonio Air Depot, the Army's largest aircraft-repair base. Damaged planes limped in from all corners of the world.

Randolph Field, opened in 1930, became the "West Point of the Air," but during the war it was turned into a B-29 base. Fifteen miles out of town, Randolph is a little city in itself. From the air it presents a striking view, its streets radiating from a hub and intersecting circular concentric drives.

When he retires, your old soldier, general or sergeant, eyes San Antonio with favor. There he can live beside those who talk his language.

Many travel-weary Army wives will confess feeling homesick for the city of their birth. So many San Antonio girls have married into the service that the city has become known as the "mother-in-law of the Army."

If the military flavor lingers, so does the aura of cowboy days. Traffic rolls over streets that twist along old mustang and cattle trails. San Antonio visibly remains a cowmen's town. It is their marketing headquarters. Their wives shop in its department stores, their children attend its many academies and colleges (page 831).

Cowboy Boots Tread Hotel Carpets

You will find cattlemen from the Gulf coast, the western plains, the border, even Mexico. Others live in suburban mansions while foremen manage their enormous ranches.

If you wish to see these men, drop into the lobby of the Gunter Hotel. Many will be reclining in easy chairs. They may be in the most unpretentious woolen or khaki trousers. Whichever kind, the cuffs hang down over elegant cowboy boots.

I spoke to a man who, I judged from his boots, must be the king of cattlemen.

"No, son," he said. "I'm a farmer. They kid me for wearing boots. But for real comfort I can't find their equal. Men who laugh at women's high heels don't know what they're missing. Now, I have flat feet, and they hurt in low-quarter shoes. A boot, with its reinforced instep, rests me. Somehow the high heels make me stand straighter. I can dance better in cowboy boots. But they're no good for long hikes. After a few miles they'll kill you."

Last spring I met a San Antonio artist wearing cowboy boots.

"I do outdoor painting," he explained, "and I'm afraid of rattlesnakes."

Consult the San Antonio telephone directory; it lists half a dozen bootmakers (Plate XIII). I talked to one who had been fitting cattlemen for years. He keeps their exact measurements on wooden blocks. For a new pair they send him a postcard. He told me about boots:

"A steel spring built into the arch distributes the stirrup's pressure across the entire foot. High heels grip the stirrup and sustain the spurs. They slope forward so as to dig into the ground when a dismounted rider wrestles a roped calf. Also, high heels prevent the toes from curling up like Turkish slippers."

"Unsainted Anthony" Has Reformed

Boots are a common sight on San Antonio businessmen; even high-school boys wear them.

But you never see a revolver worn openly; Texas cattlemen no longer "catch cold" without one.

There was a day when six-shooters, known



For Fiesta Week, Twins Do a Mexican Dance

In *China Poblana* costume (regional dress of Puebla, Mexico), Marcile (left) and Marcia Howe perform at San Martin House, oldest structure (1730) in La Villita (page 816). So devoted are the girls that one refused to pose without the other.

as "arbitrators," were checked behind the Buckhorn bar. Desperadoes were wont to ride into town from hide-outs in the hills for an evening's whoopee.

Gambling houses were wide open. Cockfighting was promoted on the plazas (and still is, at last reports, in rural neighborhoods). Bullfights were not unknown to the Mexican quarter. A fight between a bull and a lioness attracted national attention. Winner: the bull. In those days San Antonio won the nickname "Unsainted Anthony," and its county, "The Free State of Bexar."

A marker on Military Plaza identifies the site of the Council House fight. In 1840 the citizens held conference with the Comanches, just off the warpath. Peace proposals getting nowhere, the braves drew bows and scalping knives and ran whooping toward the river. Fighting by their side were squaws dressed as warriors.

Red men barricaded themselves in houses; flaming turpentine evicted them. Armed with rocks, a citizen known as "Old Paint" stood off a berserk brave. By evening the Indians had lost 33 dead, the citizens seven.

Under the Texas Republic the city became infested with so many horse thieves that vigilantes formed a committee. A tree on South Flores Street was named in honor of their leader, one Mondragón. So many men were hanged from its branches that a rhymester wrote:

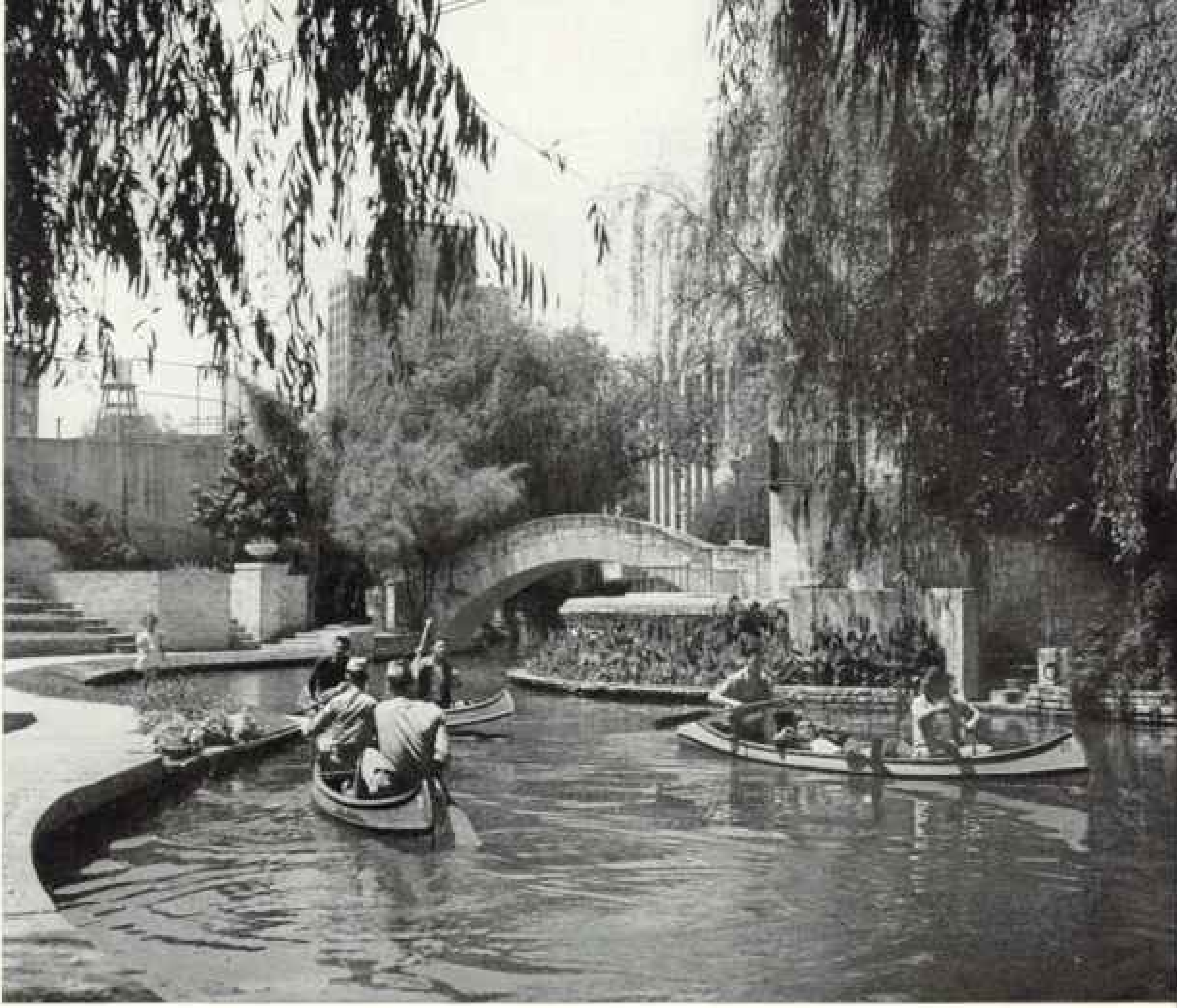
> The law of Mondragón
> All Texas will endorse,
> That here in San Antone
> You must not steal a horse.

Incidentally, no San Antonian pronounces his city's name to rhyme with Mondragón's.

I was amused by a recent motion picture whose villain directed a henchman in words something like these: "Ride down to Hondo and round up a hundred gunmen."

Hondo, 40 miles to the west, was built partly by the peaceful sons of refugees from German militarism. Gunplay had no part in their amusements.

San Antonio has a thick sprinkling of their cousins. Its breweries, flour mills, several big stores and banks have been in German family hands for years. They give San Antonio the air of a Cincinnati or Milwaukee.



Weeping Willows Arch a Watery Playground Coiling Through the Business Center

Not only canoes but gondolier-propelled pleasure boats ply the landscaped San Antonio River (page 813). Scarcely a downtown street lacks a stairway to the walk. When August's pavements simmer, the riverside is a cool green oasis. At midday many a shopgirl eats her lunch on its shaded rustic benches.

A century after the Teutonic immigration tide set in, German is rarely heard, but Spanish has lasted through the city's 229 years.

Little Mexico in the U.S.A.

Only four cities south of the border have a larger Mexican population. A third of San Antonio's citizens, more than 100,000, are of Mexican or Indian origin.

Among themselves, the Mexican Americans speak Spanish, though the majority understand English. Citizens or not, they are all classified locally as "Mexicans."

Even San Antonio's original families, the *Tejanos* (Texans), descendants of Indians living there before white men arrived, are "Mexicans." So are the descendants of Spanish-speaking patriots who shed their blood for independence from Mexico. "American" and "Mexican" make convenient tags enabling San Antonio to distinguish its citizens' origin.

"Americans" agreed that "Mexicans" had made an impressive battle record in World War II. Their names stood out on decoration lists. Casualty figures were, conservatively, two-thirds "Mexican." Many a two-room home displayed three or four stars for "Mexican" boys in the services.

The typical Mexican frequently wears so ferocious an expression that you might mistake him for a bandit, but actually he is courteous, kindhearted, and generous to a fault. His wrinkled mother still wears the *rebozo*, a dismal black shawl. His grown daughter, a stunning dresser, prefers red and green. Eyes lustrous, cheeks red, hair shining black, she is a beauty (Plate XVI).

San Antonio has frequently entertained Mexico City politicians seeking neutral haven. To it have come beaten federals and revolt-plotting generals. One was Francisco Madero. In 1910 news about his impending revolution



Zintgraff

Texas Land, Cattle, and Oil Empires Maintain Headquarters in San Antonio's Towering Office Buildings

Tallest is the six-sided Transit Tower (Plate VIII). The Alamo appears as a shady garden spot on the extreme right center (Plate I). On the left, twin-towered San Fernando Cathedral has a skyscraper neighbor. The looping San Antonio River seems lost except at its tree-bordered extremities (pages 815 and 827).



At the Outdoor Theater There Is a Gulf Between Audience and Actors—the Floodlighted San Antonio River

Grassy tiers seat nearly 1,000 patrons. Despite the distance, they have no difficulty hearing, but sometimes the river does provide distractions. Once as *Volga Boatman* was being played, two hefty girls paddled past and the musicians were convulsed. During Fiesta Week these players presented *The Great Magician.*



Young Jersey Beauties Display Shapely Figures Parading Before Their Judges

Dairymen and breeders from the San Antonio milkshed wear their entries' numbers at a show sponsored by the city's enterprising Chamber of Commerce. Luther Burbank High School (for vocational and agricultural training) gets a lesson in animal husbandry in exchange for lending its grounds. Empty seats in the background indicate the student orchestra has just finished a concert.

spread when his agents bought out all the rifles and ammunition in local stores. Soon he was President of Mexico.

One exile who made his stay permanent was Dr. Aureliano Urrutia, Sr., a physician. A follower of Porfirio Diaz, he fled to San Antonio in 1914 with his treasure and art objects. On Broadway, near Brackenridge Park, he built a palatial home whose striking color scheme whets the curiosity of visitors.

Far removed from Dr. Urrutia's mansion is the Mexican quarter—a city within a city—where most of the Mexican element crams into some 600 blocks. The quarter lies west of San Pedro Creek. Going west of the San Pedro is like going south of the border; the sights and odors are those of a market place in Mexico.

A slum-clearance project replaced many of the district's shacks with airy apartment houses, but the very poor still exist in wooden shanties facing unpaved alley courts which San Antonio calls *corrals* (pens).

Notwithstanding its poverty, I found the quarter bright with flowers. Fruit stands gleamed with greens and yellows. Filling stations had cactus gardens on their roofs. At a stonecutter's I saw gravestones decorated with colored pictures. Even funeral wreaths were gaudy.

Antique Automobiles Chug and Honk

Through the streets ambled ancient cars, their back seats often filled with junk. Great mechanical ingenuity was required to keep them running.

It is worth your life to motor in the Mexican quarter. Drivers creeping along outer lanes make left turns with bursts of speed. Right turns, of course, are made from center lanes. As houses block your vision at most corners, your best bet is to honk.



An Acrobatic Young Cavalryman Clears the Bar at Peacock Military Academy

Fiesta Week crowds at Woodlawn Lake, San Antonio, watch Cadet Ralph M. Braswell, Jr., a member of the "monkey drill" team, execute a maneuver called "Roman-jumping three horses" (note the six hind legs). Cavalry training is one of the school's most popular courses. Football, too, is popular. In 1915 Second Lt. Dwight Eisenhower, not long out of West Point, coached the Peacock eleven (page 823).

"Stop! *Alto!*" Caution signs are in English and Spanish.

I took notes on a house front which did even better, carrying these signs: *Oficina de abogado* (lawyer). *Notario público.* For sale, houses and lots. *Arreglamos papeles de ciudadanía* (We arrange citizenship papers). Birth certificates made here. And, superfluously, *Se habla español* (Spanish spoken).

Milam Square, facing Produce Row, is the Mexican quarter's Times Square and solarium. On sunny days the grassy park is dotted with siesta-takers.

A few steps away, El Teatro Nacional entices movie-goers with a double helping, one picture in Spanish, the other in English. Both are aids to language students.

Teatro's auditorium contains several blue-leather seats of double width. These, an attendant told me, are for fat persons and mothers with children. They are better known to the clientele as "love seats"; no armrests interfere with affectionate waists.

Bookstores near by display Spanish titles about *amor, muerto,* and *brujos* (love, death, and wizards). Paper streamers announce *gran baratas* (big sales). Old phonographs and radios blare Mexican music. Bags of hot chili peppers clog doorways. Sidewalks disappear beneath heaps of merchandise. Bales of corn shucks are sold for tamale and cigarette wrappers.

Herb shops offer cures for almost anything. Love charms may be bought at some *boticas* (drugstores).

Here is jerked meat and there a charcoal used as tooth powder. Peddlers hawk trinkets, candy, and *pan dulce* (sweet bread).

In season there are mammoth pineapples from Mexico. Mangoes, papayas, and avocados make splashes of color.

Open-air stands serve substantial meals,

recently for as little as a dime. Chile con carne, tamales, *enchiladas, tacos,* and tortillas are favorites, as indeed they are all over town (Plate XV).

Following a recipe centuries old, Mexican women roll pancake-shaped white-corn cakes by hand. I saw tortillas cooked on machines imported from Mexico City. Like a laundry's white starched collars, they emerged curling from a series of steaming hot rollers.

Mexican dishes are not the only surprises on San Antonio menus. On Sundays grilled rattlesnake meat is served to visitors at the Reptile Garden in Brackenridge Park. Epicures enthuse over broad-breasted turkey. Do you relish *cabrito or chevon?* (Page 842.) Try a praline; every candy store is stocked with these pecan-and-sugar candies.

Before the war San Antonio's cherished T-bone steak, fried to the consistency of shoe leather, was a 45-cent restaurant item. Juicy pit-barbecued beef, rich with smoky flavor, sold last spring for 60 cents a heaping plate.

"Do you think that's too much?" a waitress asked me.

Pecans Shade the City and Give It Work

Looking into the origin of these dishes, I learned some surprising details about San Antonio and its countryside.

Pecan trees cover a large part of the city. As I surveyed them from a lofty building, they obscured dwellings. They provide shade, beauty, and a bountiful nut crop each fall. On a hot summer day no sound is sweeter than their rustling leaves heralding evening's breeze from the Gulf of Mexico. At dusk fireflies dance through their branches.

No doubt the pecan yield is Texas's oldest. Geological formations are garnished with fossil nuts. Early explorers were amazed by the big growths.

Pecans grow anywhere on the Texas plains except where hard strata turn back taproots. Larger groves follow river bottoms, where floods spread the seeds. Many a bottom-land holder has paid his taxes by selling the pecans that cost him so little labor.

Texas produces about one-fourth to one-half of the Nation's crop, and San Antonio boasts that it shells and markets a large percentage of the Southwest's crop.

The industry was launched in 1882 by a candy manufacturer who shipped fifty barrels to the East on speculation. Friendly Indians gathered the nuts.

For years shelling was done by hand. Machines revolutionized the industry and improved the pay scale.

Visiting the Southern Pecan Shelling Company, I watched its mechanical sheller crack two shells in a twinkling without breaking the meats.

Two thousand of these machines, housed in a loft, require the attention of twenty men. Each month they open a million pounds of nut meat. Automatic machinery discards most of the shell. Women, working over a moving belt, pick out the remainder.

The factory owner told me that nothing was wasted. Candymakers use the fine meat crumbs. Ground into a powder, the inner shell was used in wartime to stretch out the cinnamon supply.

Though eastern buyers pay premium prices for paper-shell pecans, the wild nut is the basis of the industry. Some improved varieties have been budded on to hardy, native root stock. An old tree may bear five or six kinds.

Man Tailors Turkey for White Meat

My next "discovery" was the broad-breasted turkey. This man-tailored bird, developed in England around 1900, yields 40 percent more breast meat than the native turkey. He is bred for the table, not the open range. His short legs are ineffective for roaming and his meaty wings can scarcely rise.

Housewives complained that the bird was too big for refrigerators. To accommodate them, wholesalers split the turkey into halves and even quarters.

The San Antonio-Austin-Cuero triangle, one of the Nation's largest turkey producers, concentrates on the new turkey. About half its flocks carry some broad-breasted blood.

To see purebloods, I visited Luling Foundation, a demonstration farm some 55 miles from San Antonio. Walter Cardwell, the manager, said:

"Breeding, crossing, and selection started with the old bronze turkey. We got our stock from the State of Washington. We believe we have improved the breed.

"You might compare the turkey's history to that of beef cattle. Both the longhorn and the wild native turkey were adapted to life on the range. They knew how to hunt cover and protect themselves against marauding animals. However, they were not the best breeds for eating. Today the longhorn exists only in zoos. Before long the common turkey may join him there."

Ah! Turkey Smoked Like a Ham

Consumers clamor for smoked turkey, on which they may nibble for weeks.

This area concentrates on hatching-egg production. Its turkeys may live outdoors the year round; hens lay during the winter.



Kodachrome by J. Baylor Roberts

Infantrymen Present the Colors as Fort Sam Houston Celebrates Fiesta Week

The 88-foot clock tower in the Quadrangle, oldest part of the post, once served as a watchtower. Geronimo's Apache braves, imprisoned here in 1886, climbed it to do a bit of scouting and got a fright when the clock chimed.

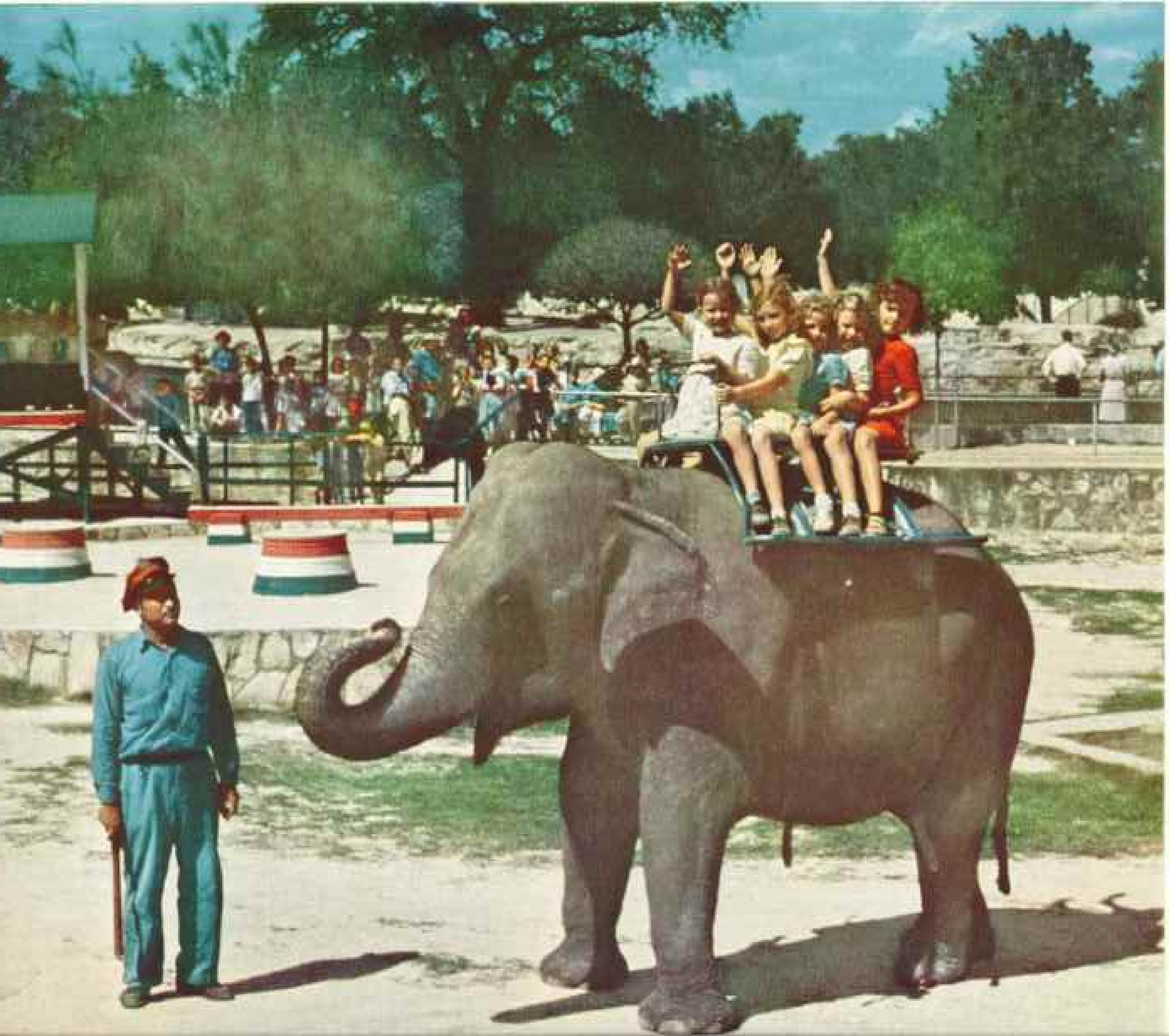


X

Ektachrome by J. Baylor Roberts

Thomas Jefferson High School, Which Teaches Modern Living, Prepares Youngsters to Be Good Texans

Its varied curriculum includes classes in journalism, broadcasting, sewing, dancing, roping, and military drill. Few colleges inspire more "pep."



It's Circus Every Day in the Zoo; Elephant Rides Cost 10 Cents

Brackenridge Park's 320 acres are the city's most popular playground. On holidays thousands throng its tennis courts, picnic grounds, and golf course. Now and then its Reptile Garden holds a rattlesnake fry.

Most of all, children love the Zoological Garden. There an abandoned quarry has been converted into the African Panorama. Its caves, cliffs, and pits make open-air exercise grounds in which the animals appear uncaged. Monkey Island, where simians cut capers on diving boards and trapezes, attracts hilarious audiences.

So many people crowd the zoo on a Sunday that the photographer had to select a weekday.

Kodachrome by J. Baylor Roberts



Kodachrome by J. Baylor Roberts

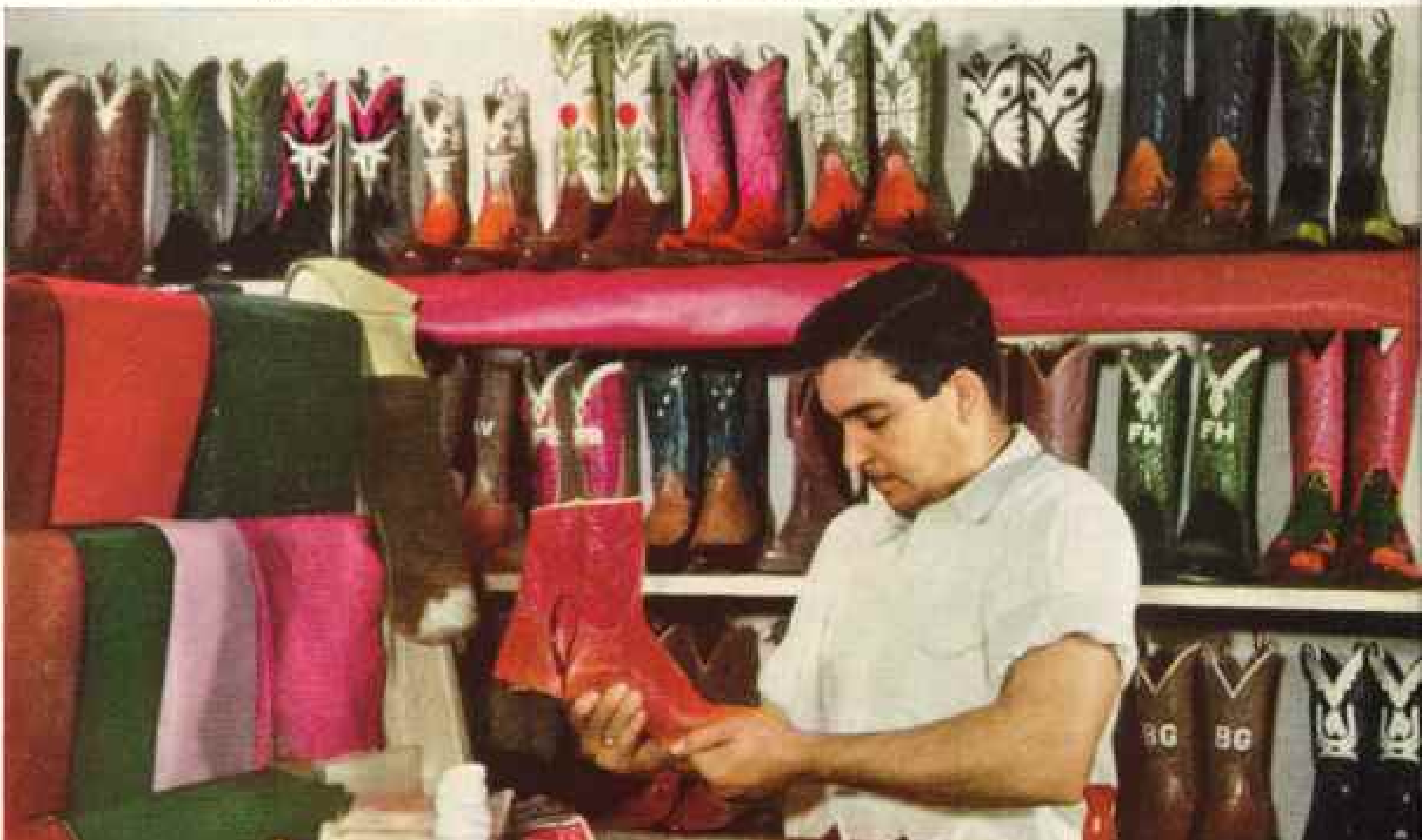
From the Feed Store, Now a Fashion Emporium, Comes Sackcloth for Colorful Dresses

Many a poultryman has overstocked mash to please his wife. "Give me that one in pink," says she, pointing to a mountain of 100-pound bags. At no extra cost she gets fine-quality, ready-to-sew cotton prints.



Sleepy Donkeys and Wobbly Wagon Edging In Among Big Trucks Threaten a Traffic Snarl

The old teamster, who does odd bits of hauling, never yields an inch to truckers. Their verbal battles are loud and futile. On Haymarket Plaza, oranges come in from the Rio Grande Valley.



Kodachromes by J. Baylor Roberts

With Fancy Leather the Bootmaker Indulges Texans in Foot Comfort and State Pride

In San Antonio you're never sure who's a businessman and who's a rancher; both wear cowboy boots. Little's Boot Shop keeps their foot molds; a new pair requires only a postal card.



© National Geographic Society — XIV — Ektachrome by J. Baylor Roberts

In a Bexar County Meadow, Schoolgirls Laze on a Carpet of Bluebonnets, the Texas State Flower



Texas Has Adopted Mexico's Hot Tamale as Its Own

Quick-frozen tamales are the latest. Machines roll meat hearts in corn meal. Operators wrap them in sterilized cornhusks for steam cooking. Deep freeze prepares the tamales for shipment by Alamo Frozen Foods Company.



Kodachromes by J. Baylor Roberts

Sewing Tiny Garments Is Big Business in San Antonio

Needleworkers at the Juvenile Manufacturing Company are soothed by music over a public-address system. They receive training from educational films. Yearly output approximates 31,000,000 garments.



Ektachrome by J. Baylor Roberts

Take a Raw-edged Straw; Trim It with Feathers: Out Comes a Fiesta Crown!

San Antonio believes that not even Mexico City has prettier girls than its own Mexican-American beauties. Some of them staff the dining room of a leading hotel. This *chiquita* danced at a Fiesta Week costume party.

"Thus we have an advantage over northern breeders," said Mr. Cardwell. "To produce flocks in time for the Thanksgiving rush, the North orders eggs from us in December."

To supplement sales, the Foundation buys eggs from breeders under its supervision. At the time of my visit it paid 27 cents an egg. An owner of 56 hens sold 44 eggs per hen and made a seasonal profit of $7.24 a hen. A man using lights to stimulate laying made $8.31 a hen.

In a feeding lot, I saw what selective breeding had done to the pugnacious, roving gobbler. Several hundred poults represented man's idea of what a made-to-order turkey should be.

These pampered birds were born under controlled temperature. Their brooder house was cleaned daily. They got vitamins and minerals. Before long they would be vaccinated and wormed.

Now 11 weeks old, they had been put on a grazing lot. Too lazy to walk, they had left the far end untouched, though it was green with tender oats. To tempt them afield, an attendant moved their mash trough periodically.

Gentle dueling between poults showed that most of the fierce old gobbler's fighting spirit had been bred out. Notwithstanding, certain instincts remained. When a hawk swooped down, the poults ran for their shed.

Canvas Saddles Worn by the Hens

In the laying pens, where hens are cooped with toms, each layer has her own trap nest. As one entered her nest, I saw a door fall automatically, locking her in. Later an attendant released her, stamped the fresh egg with her number and the date. Thus a record was kept on each shell.

On her wing the hen wore a metal clip showing her pedigree. Across her back a heavy white canvas was stretched like a saddle. I was astonished by this wearing apparel. The attendant explained:

"We call them turkey saddles. Some of the toms are pretty rough. Canvas protects the hen against injury. Without it, there is a 30-percent rejection of slaughtered hens after the laying season. Dealers do not like to offer a bruised and corrugated turkey."

Turkey saddles? What will they have next—rose-colored glasses for chickens? I mentioned these saddles to a San Antonio chicken fancier. This was his boast:

"I have something that will beat that."

With that, he produced a pair of tiny red glasses. These, he told me, were designed by a novelty company for aristocratic but cannibalistic chickens. Capriciously, they peck at weaker birds' red-rimmed eyes. To break this habit, a few poultrymen pierce the beak and insert a tight plug. In it they anchor a nosepiece for glasses. Red lenses confuse the cannibal; everything looks rose-colored (page 843).

Cattle Ranch Shapes a New Breed

Ten miles from San Antonio, within easy sight of its skyscrapers, lies the 3,500-acre Essar Ranch. Essar raises no cattle for slaughter; its yearly sales go to breeders. Here an experiment is fashioning a new American breed of cattle adapted to hot weather and high humidity.

Essar stands for Scientific Research, a name which expresses the aspirations of Tom Slick, Jr., the genetics enthusiast who owns the ranch. During his absence I toured Essar with Arthur McArthur, the manager.

Paralleling a United States Department of Agriculture experiment at Jeanerette, Louisiana, Essar is developing a cross between the Aberdeen-Angus, heavy meat producer from cool Scotland, and the Brahman, humpbacked, heat-tolerant cow from tropic India.

A Brahman cow resists to a large degree the Gulf coast's enervating heat, fever ticks, and flies. She fights the brush like no other except the Afrikander. A hardy traveler, she trots a mile or more to water. However, a large percentage of waste development goes into her hump and dewlap, the latter a mass of loose skin beneath the neck. Ears are long and drooping; horns differ widely.

Angus, perfection type of beef cattle, produces finely marbled flesh. The comparatively short head is polled (hornless), the body low and compact, and the coat uniformly black.

However, the Angus, like other British breeds, is not acclimated to hot weather. Without heat tolerance, an important factor in fertility, the tropic herd tends to die out.

A Cowman's Problem in Fractions

"What we want," said Mr. McArthur, "is a bull we can sell to the Gulf coast to improve its crossbred Brahmans. If we can combine and fix the best qualities of Angus and Brahman, we shall have that bull. Our goal is the fixation of the ⅜ Brahman-⅝ Angus into a heat-resistant meat producer with a solid black coat.

"The first cross with the polled Angus removes most of the Brahman horns. This first-generation hybrid is known as the pureblood half-blood. In the next step a half-blood is mated to a pure Angus, producing a ¾-¼ cross. The desired ⅜-⅝ cross is obtained



Boys Scramble for Coins Tossed from a Bridge

Though there is a rule against swimming, police are frequently baffled. Here an artificial channel lessens flood hazards of midtown's sweeping U-bend. In cloudbursts the tiny San Antonio River becomes a raging giant.

by pairing the 3/4 Angus with a half-blood.

"Both breeds put their stamp on the 3/8-5/8. In appearance, the calves are predominantly Angus—hornless, uniformly black, low, and compact. Drooping ears are straightened out. Most of the useless hump and dewlap are gone. Henceforth it will be a matter of selection and fixation of type."

Some northern cattlemen consider the San Antonio area too hot and the flies too bad.

"We have proved the contrary," Mr. McArthur told me. "With proper management there is not a day out of 365 that we can't have green feed. During the winter our cattle remain outdoors. Only calves and milk cows know what a barn is.

"In our five years here we have produced two grand-champion Hereford bulls. In 1942-43 Essar Ranch's native son, T. Royal Rupert 60th, became the champion in two national Hereford shows."

City-fashion, we drove in an automobile across grass fields to T. Royal Rupert's pen.

"Look at him!" Mr. McArthur exclaimed. "The instant I saw him as a newborn calf I knew he was our future herd bull. He had straight lines, compact body, wide head, and stocky legs—the signs of a champion. At our sales, his sons have averaged $4,000," Mr. McArthur beamed. "T. Royal Rupert has *it*," he said.

Cabrito or *Chevon*, It's Goat Meat

Thirty years ago most Texans considered goat meat fit only for the poverty-stricken. Today it is a favorite dish of Texans and Mexicans in the goat country and along the border. Known as *cabrito*, the flesh of the tender milk-fed kid compares favorably with lamb. *Chevon*, a word coined by breeders, identifies the flesh of the full-grown goat. Both have appeared on many a hotel menu. Wartime chefs prized them, as they required no red points.

For a sight of goats on the hoof, I visited San Antonio's Union Stock Yards, largest goat market in the United States. Some 2,500 cattle, 2,000 calves, 1,000 hogs, 6,000

sheep, and 1,800 goats were in the pens (page 844). Their combined moos, grunts, bleats, and baas were not as penetrating as the voice of a girl operating the yards' loudspeaker system, who paged buyers and sellers in stentorian voice.

One pen held a few angora culls. Usually angoras are not offered for slaughter, as their long, curly, white fleece produces mohair, used in Palm Beach and other fabrics. Texas ranchers produce 85 percent of the Nation's angoras and mohair. This $25,000,000 Texas industry got its start nearly a century ago with the importation of a few goats from Turkey.

Plebeians of their tribe, Mexican goats represented most of the day's receipts. They are for the dinner table. Their nondescript hair is of small value. Spaniards brought their kind to Texas long ago. On brush-country hills where cattle would starve, goats make a fat living.



Staff Photographer Luis Marden

Seeing the World Sadly Through Rose-colored Glasses

A White Leghorn unwillingly models a pair of spectacles designed for cannibalistic chickens. As the glasses tint everything red, they presumably remove the temptation to peck weaker birds' red-rimmed eyes. This pair was bought in San Antonio and tried out on an innocent Maryland hen (page 841).

At the yards I saw a breed of horseless, city-dwelling cowboys. Known as yardboys, they herd penned cattle with hats and canvas slappers. In cowboy boots and ten-gallon hats, they play off-duty pool in the recreation room. Their nextdoor neighbor, the barber, wears his trade's "ice-cream" pants.

At any leisure hour when these men turn on the radio they may hear an endless array of cowboy ballads about their city. Red River Dave, a local favorite, sings a few every morning. Every juke box in these parts glorifies the city—"San Antonio Rose," "By the Alamo," "Home in San Antone."

San Antonio stands on Texas's dividing line. To the north lie the black waxy cotton lands; to the south tangled mesquite and arid badlands. Eastward are the humid coastal swamps; northwestward the Edwards Plateau.

Look at your Society's Map of the World; San Antonio shares the neighborhood of the 30th parallel with Cairo, Egypt; Basra, Iraq; Kerman, Iran—all celebrated hot spots.

Northers Spoil Perfect Winters

I talked to J. H. Jarboe, head of San Antonio's Weather Bureau, who told me:

"Admittedly, summer is hot, but no matter how uncomfortable the day, a breeze from the Gulf makes the night ideal for sleeping.

"Winter is mild. Your average San Antonian likes to leave his overcoat at home. However, the city shares a dread wintertime



Wild-eyed Steers Shy Away from the Camera, Thrust Horns Up Nervously

These Herefords' home in Zavala County, Texas, is one of the last areas where steers are held on the open range until maturity. In the thorn and brush they rarely saw a man on horseback or in a car, and probably never one on foot. When the photographer appeared at San Antonio's Union Stock Yards, they bellowed distrust. At 1,300 pounds, they are grass-fat (page 842).

phenomenon with the rest of Texas. It is the norther, an outbreak of Arctic air that strikes the western plains three or four times a season.

"A norther gives little warning. The temperature, which has been around 75 degrees, may drop to 50 within the hour. Attaining 25-to-40-mile velocities, the wind pierces garments. On the day following a norther the winter sun comes out bright and warm."

Like Florida, San Antonio sells its winter climate to eastern and northern visitors. They rhapsodize about the city. Oil executives of a hundred companies make it their headquarters. Visitors from Mexico frequent it.

Who Won the War? Every Texan Knows!

It must be conceded that there is one raucous dissent. It is the voice of the soldier stationed here. In wartime he was forced to submit to a barrage of Texas propaganda. Naively attempting to praise his own native State, he stood little chance of arguing down a Texan.

"Your San Antonian seldom waves the Lone Star flag when in the company of Texans," said Sam Woolford, Illinois-born city editor of the San Antonio *Light*. "But non-Texans he loves to bait with stories about his State's supremacy.

"One day we published this eight-column head: 'Texas Flyer Shoots Down 6 Japs.' Mimicking it, the soldiers got out a satirical sheet screaming: 'Texas Boy Kills 6,000 Japs.'

"Soldier letters to the editor were violent. We got a deluge protesting what we considered a humorous map. Illustrating a Texan's idea of the United States, the map magnified Texas, condensed or omitted other States. One critic wrote:

" 'Don't you know that New York State is on the map and that it contains the largest city in the United States? Are you so ignorant you don't know of the existence of the Hudson River?'

"The crowning insult occurred when Hermann Goering surrendered to the 36th Division, a Texas National Guard outfit, which posed him before the Division's flag. That picture was right up our alley. What further proof was needed that Texas had won the war?"*

* See, in the NATIONAL GEOGRAPHIC MAGAZINE, by Frederick Simpich, "So Big Texas," June, 1928, "Down the Rio Grande," October, 1939, "How We Use the Gulf of Mexico," January, 1944, "Yield of Texas," February, 1945; and "Texas Delta of an American Nile," by McFall Kerbey, January, 1939.

The Society's New Map of the South Central United States

A RICH and varied area as large as France, Germany, and Czechoslovakia combined is presented in the National Geographic Society's new map of the South Central United States—Arkansas, Louisiana, Oklahoma, and Texas.*

This 29½-by-24-inch supplement to this issue of the NATIONAL GEOGRAPHIC MAGAZINE is the fifth in The Society's series of large 10-color sectional maps of the United States. When the map of the North Central States is issued as a supplement next year, The Society's 1,600,000 members will have acquired, in six sections, a master reference map of the Nation equivalent in size to a single sheet of 28 square feet.†

All maps in the United States series are drawn to the same scale—1:2,500,000, or 39.46 miles to the inch—with one exception. The Northeastern United States map, because of the area's dense population and consequent increase in number of place names, was scaled at 1:1,750,000, or 27.6 miles to the inch.

Like its predecessors, the South Central United States map shows a wealth of accurate, up-to-date detail, including roads, railways, and waterways. Its scale, design, clarity, and cartographic completeness make it useful both as a general geographic reference source and for planning trips through this vast and diversified region. The map is drawn on the Albers Conical Equal-Area projection, and distances may be measured upon it with little appreciable scale variation.

The names of the four States shown complete on this map are used to form a striking border design.

Names Eloquent of Early Settlers

The 5,683 place names on the map reflect the latest official population figures—and many also attest to the character and humor of those who first settled here.

Early settlers of these four States were evidently proud of their womenfolk. For example, Arkansas place names include a Jennie, an Elaine, and a Daisy.

Oklahoma honors Mazie and Corinne. Louisiana, which boasts old French names such as New Orleans, Baton Rouge, and Lake Pontchartrain, also lists Eunice, Ida, Lillie, and Bernice. Texas has her Nancy, Maud, Melissa, and Alice, just south of which is Ben Bolt.

Other interests of the early settlers are reflected in such place names as Bowlegs, Bigfoot, Blue Eye, Smackover, Dime Box, Muleshoe, Lariat, Osakay, Snowball, Evening Shade, Loco Hills, and Dimple.

The new map highlights many points of historic, recreational, and scenic interest. Near its western border, in New Mexico, is the location of the first atomic-bomb test in the appropriately named Jornada del Muerto. Lack of water in this ninety-mile stretch of trail prompted the Spaniards to name it Journey of the Dead Man. To the south 70 miles, in the White Sands area, is the testing ground for the captured V-2 rockets.

Millions of Cattle Roam Open Spaces

Reaching across the great central plains from the Mississippi River to the Rocky Mountains, the South Central States form one of America's biggest grazing grounds. Within the four States are 14,000,000 cattle, more than one for every man, woman, and child in the area. Figures for other livestock also are impressive:

Sheep	10,000,000	Chickens	89,000,000
Hogs	5,000,000	Turkeys	7,000,000
Goats	3,500,000	Horses and mules	2,000,000

Yet the land is not crowded.

Fields planted to wheat, cotton, and corn cover an acreage sufficient to blanket every square foot of Pennsylvania.

Hayfields of the South Central States, if put together, would spread over the whole of New Jersey, and an acreage of similar extent is planted in sorghum.

Most of the country's rice crop is grown on 1,200,000 acres in this region, and a similar area is planted in peanuts.

Still there is room for more! Commercial forests cover a stretch bigger than the entire State of Nebraska.

Thousands of acres produce citrus fruits, pecans, and tung nuts.

Crystal City, Texas, in the heart of a truck-growing region, honors Popeye, patron of

* Members may obtain additional copies of the new map, "South Central United States" (and of all standard maps published by The Society) by writing to the National Geographic Society, Washington 6, D. C. Prices, in United States and Possessions, 50¢ each on paper; $1 on linen; Index, 25¢. Outside United States and Possessions, 75¢ on paper; $1.25 on linen; Index, 50¢. All remittances payable in U. S. funds. Postage prepaid.

† Other maps in the National Geographic Society's sectional series of the United States have been issued as supplements to these issues: Southwestern United States, June, 1940; Northwestern United States, June, 1941; Northeastern United States, September, 1945; Southeastern United States, February, 1947.

spinach, with a large statue in the town square.

Most of our domestic cane sugar is grown on 264,000 acres in Louisiana.

Two-thirds of the nation's petroleum—forty percent of the world's output—comes from pools beneath the surface of the South Central States. All four States also are heavy producers of natural gas, accounting for two-thirds of the nation's output.

Louisiana was admitted to the Union on April 30, 1812. Seven years later its present boundaries had been definitely established. By that time its principal city, New Orleans, was a century old; the original 4,000 Acadians who came to southern Louisiana from Nova Scotia between 1760 and 1790 had increased in numbers and were known as "Cajuns"; Gen. Andrew Jackson had become the hero of the Battle of New Orleans; and the pirate Lafitte and his band had settled down to fishing and trapping in the swamplands below New Orleans.*

New Orleans Booms as Port

The first steamboat to navigate the Mississippi reached New Orleans in 1812, and the city soon began to boom as a shipping point for the Mississippi Valley. By 1840 New Orleans was the fourth largest city in the United States, and its second port.

Planters emigrated to Louisiana's outlying parishes and laid the foundation for the State's vast cotton and sugar production of the future. Successors to early fur trappers built up that business until today Louisiana is the nation's top fur-producing State.

Oklahoma, once part of the Territory of Missouri, and later part of the Territory of Arkansas, became a Territory in its own right in 1890. Adjacent to it on the west lay Indian Territory. These "Twin Territories" became the State of Oklahoma in 1907.

Today oil production overshadows other industries in the State, although agriculture is extremely important. Within Oklahoma's borders lie granite, marble, limestone, sandstone, brick clay, asphalt, glass sand, tripoli, volcanic ash, and gravel.

In Oklahoma's Wildlife Refuge in the Wichita Mountains, travelers may see one of the last buffalo herds on its native ground. Here also is a small herd of historic Texas longhorns, the tough old cattle which contributed so much to the opening of Texas and the great plains.

The Ozarks of Missouri, and Arkansas, too, are living museums of folk lore and present-day recreation areas.

Arkansas, also once part of Missouri Territory, became a separate Territory in 1819 and by 1836 had achieved statehood. During the panic of 1837, thousands of farmers crossed the Mississippi and poured into the State, almost doubling its population to 97,574 by 1840.

As early as 1800 cotton was introduced into Arkansas. Today the State maintains its place as one of the leading cotton producers and usually ranks second or third in the nation. Production of cottonseed oil also has risen to huge proportions.

The only independent nation to become a part of the United States is Texas, which in 1836 freed itself from Mexican rule and in 1846 was admitted to the Union. On the record of those eventful, historic years appear the names of the brave defenders of the Alamo and the heroes of the Battle of San Jacinto.†

Texas is as big as all New England, New York, New Jersey, Pennsylvania, Ohio, and Illinois. Its town of Dalhart, in the northwest corner of the State, is closer to the capitals of New Mexico, Oklahoma, Kansas, Colorado, Nebraska, and Wyoming, than it is to Austin.

The Lone Star State stretches 800 miles from the semitropical Rio Grande to its northern border. Its greatest width is about 750 miles. The Rio Grande forms the State's boundary with Mexico for about 800 miles.

Texas enjoys widely diversified interests. Cattle, wheat, corn, fruit and vegetables, oil, timber, manufacturing, and shipping all contribute heavily to its wealth. Its famous King Ranch covers as much ground as the State of Rhode Island. Here, by crossing native shorthorns with Brahman cattle from India, the ranch has developed the Santa Gertrudis strain, America's first distinct breed.

Randolph Field, Texas, is the "West Point of the Air." Like all flying fields on the new map, it is marked with a small square symbol.

The new map continues the route of the Intracoastal Waterway as shown on the Map of Southeastern United States, carrying it from New Orleans to the mouth of the Rio Grande at Brownsville.

Ships traversing the Sabine-Neches Canal, a part of the Waterway, appear to be cruising the streets of Port Arthur, the nation's biggest oil-shipping center. Here big pumps can load a 150,000-barrel tanker in one day.

A dredged ship canal, 50 miles long, converts Houston, an inland city, into a seaport.

* See "Louisiana Trades with the World," by Frederick Simpich, in this issue, page 705.

† See "Carnival in San Antonio," by Mason Sutherland, in this issue, page 813.

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To carry out the purposes for which it was founded fifty-nine years ago, the National Geographic Society publishes this Magazine monthly. All receipts are invested in The Magazine itself or expended directly to promote geographic knowledge.

Articles and photographs are desired. For material The Magazine uses, generous remuneration is made.

In addition to the editorial and photographic surveys constantly being made, The Society has sponsored more than 100 scientific expeditions, some of which required years of field work to achieve their objectives.

The Society's notable expeditions have pushed back the historic horizons of the southwestern United States to a period nearly eight centuries before Columbus crossed the Atlantic. By dating the ruins of the vast communal dwellings in that region, The Society's researches solved secrets that had puzzled historians for three hundred years.

In Mexico, The Society and the Smithsonian Institution, January 16, 1939, discovered the oldest work of man in the Americas for which we have a date. This slab of stone is engraved in Mayan characters with a date which means November 4, 291 B. C. (Spinden Correlation). It antedates by 200 years anything heretofore dated in America, and reveals a great center of early American culture, previously unknown.

On November 11, 1935, in a flight sponsored jointly by the National Geographic Society and the U. S. Army Air Corps, the world's largest balloon, *Explorer II*, ascended to the world altitude record of 72,395 feet. Capt. Albert W. Stevens and Capt. Orvil A. Anderson took aloft in the gondola nearly a ton of scientific instruments, and obtained results of extraordinary value.

The National Geographic Society-U. S. Army Air Forces Expedition, from a camp in southern Brazil, photographed and observed the solar eclipse of 1947. This was the seventh expedition of The Society to observe a total eclipse of the sun.

The Society cooperated with Dr. William Beebe in deep-sea explorations off Bermuda, during which a world record depth of 3,028 feet was attained.

The Society granted $25,000, and in addition $75,000 was given by individual members, to the Government when the congressional appropriation for the purpose was insufficient, and the finest of the giant sequoia trees in the Giant Forest of Sequoia National Park of California were thereby saved for the American people.

One of the world's largest icefields and glacial systems outside the polar regions was discovered in Alaska and Yukon by Bradford Washburn while exploring for The Society and the Harvard Institute of Exploration, 1938.

Make this an extra-special Christmas

(Below are some extra-special people in your life who deserve an extra-special gift this Christmas—a fine Hamilton Watch)



MOTHER. Does she think of everyone at Christmas—except herself? Take her breath away this Christmas with an exquisitely designed, faithful Hamilton Watch. The CLARA (below) has 17 jewels, 14K natural or white gold-filled case . **$60.50.**

FATHER. Want to tell him how thrilled you are about his promotion? Give him a fine Hamilton. Below (left), the WESLEY—19 jewels, 14K gold case, *Medallion* movement . . . **$180.** Below (right), the NORMAN—19 jewels, 14K gold-filled case . . . . **$66.**

DAUGHTER. Did she make the Honor Roll her very first term at college? She deserves something super special this Christmas—a precious Hamilton Watch. The lovely LANA (shown below) is a suggestion—17 jewels, 14K natural or white gold case . . . . . **$71.50.**

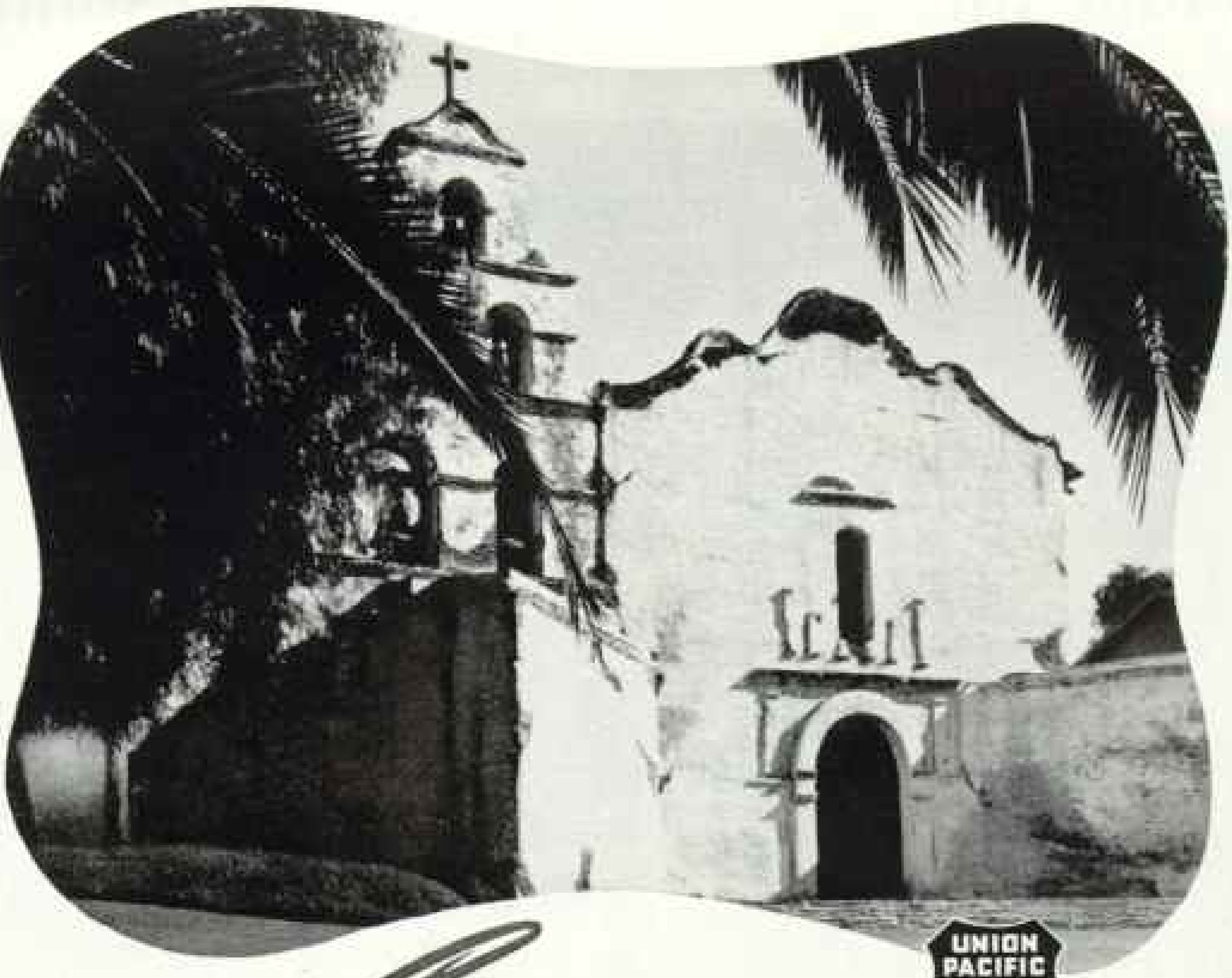
GRANDMOTHER. Ever since you can remember, has she had a way of picking the one gift your heart was set on? Give her the gift *her* heart is set on—a beautiful Hamilton. "Diamond set" Hamiltons such as the one below are priced from **$120** to **$5,000.**

SON. Is he making good in his first job? Show him how proud you are by putting a good-looking Hamilton in his stocking. Below (left), the MYRON—17 jewels, 10K gold-filled case . . . **$55.** Below (right), the MARTIN—17 jewels, 10K gold-filled case . **$52.25.**

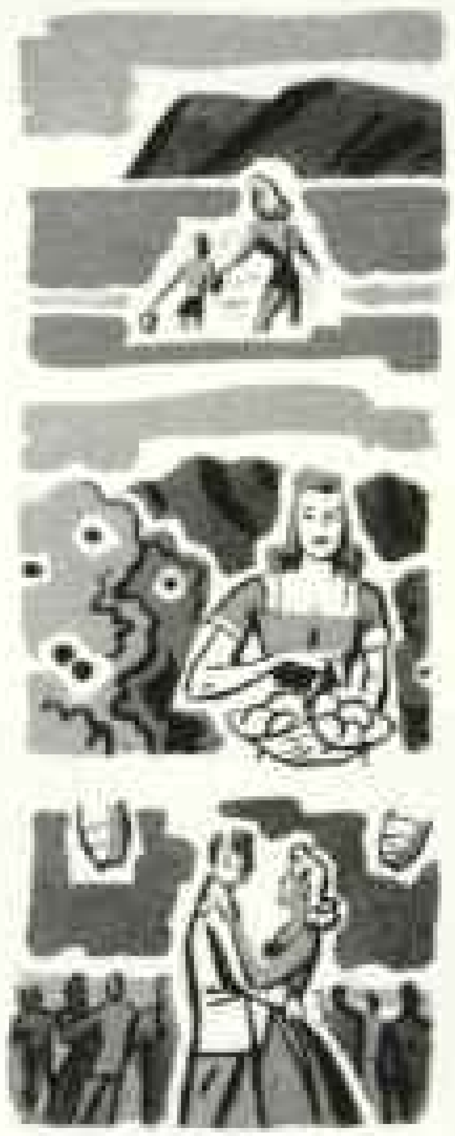
Watches shown suggest Hamilton's variety of styles and prices. See your jeweler for other Hamilton gift watches from **$52.25** *up. Prices incl. Fed. Tax.*



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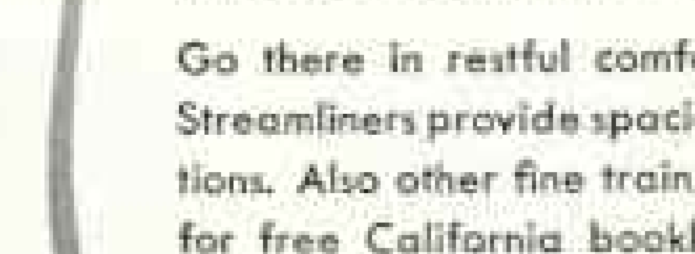


THE ROMANTIC CHARM OF *California*



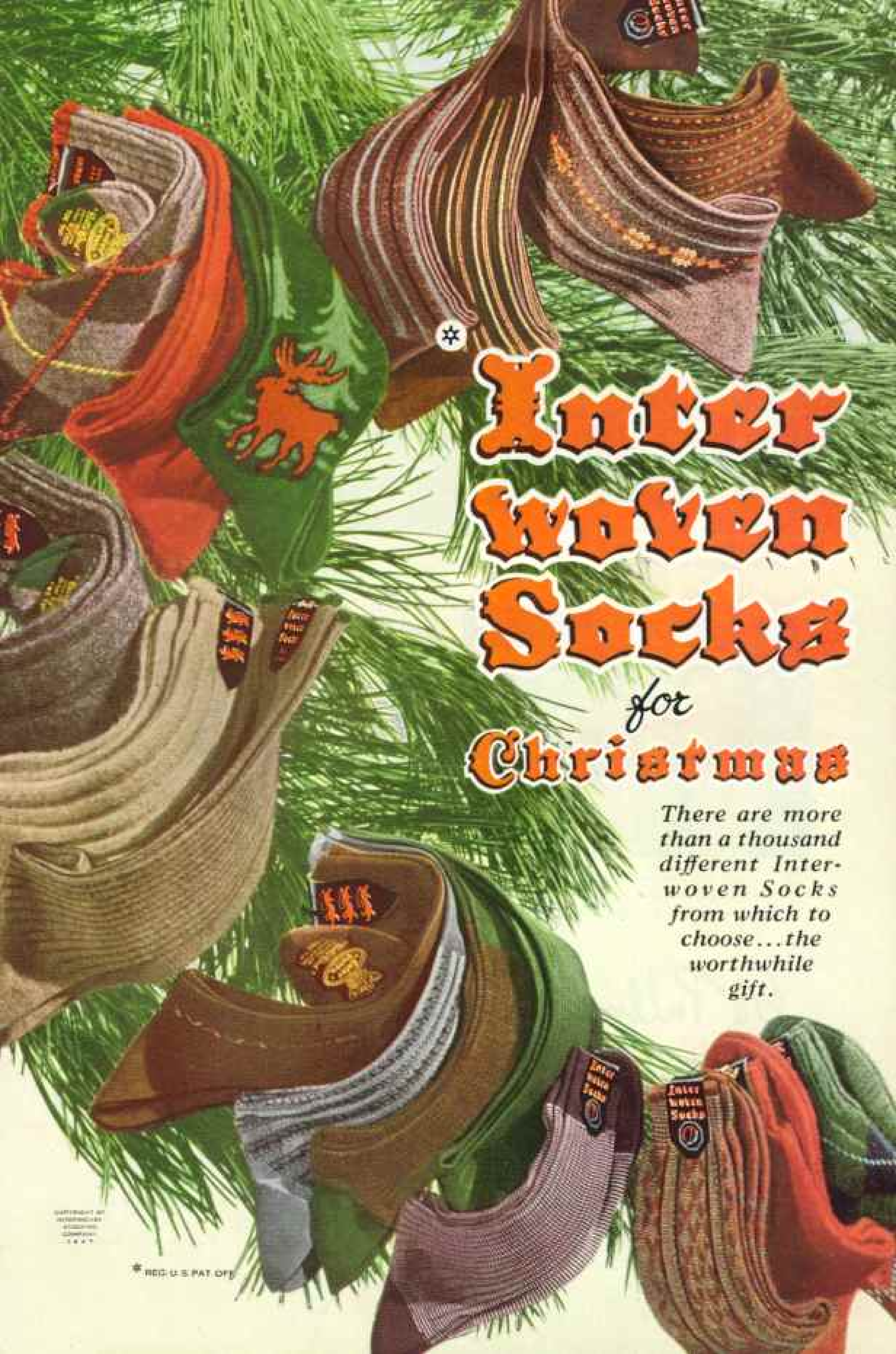
When visiting the Golden State, don't miss seeing the time-mellowed Spanish Missions. You'll be intrigued by their romantic histories . . . find them to be a charming contrast to other attractions such as the sandy beaches, picturesque golf courses, quaint foreign sections and colorful, cosmopolitan night life. A world of beauty and enjoyment awaits you in California.

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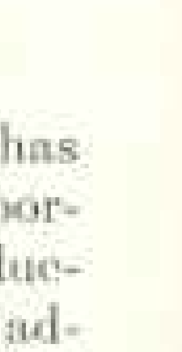
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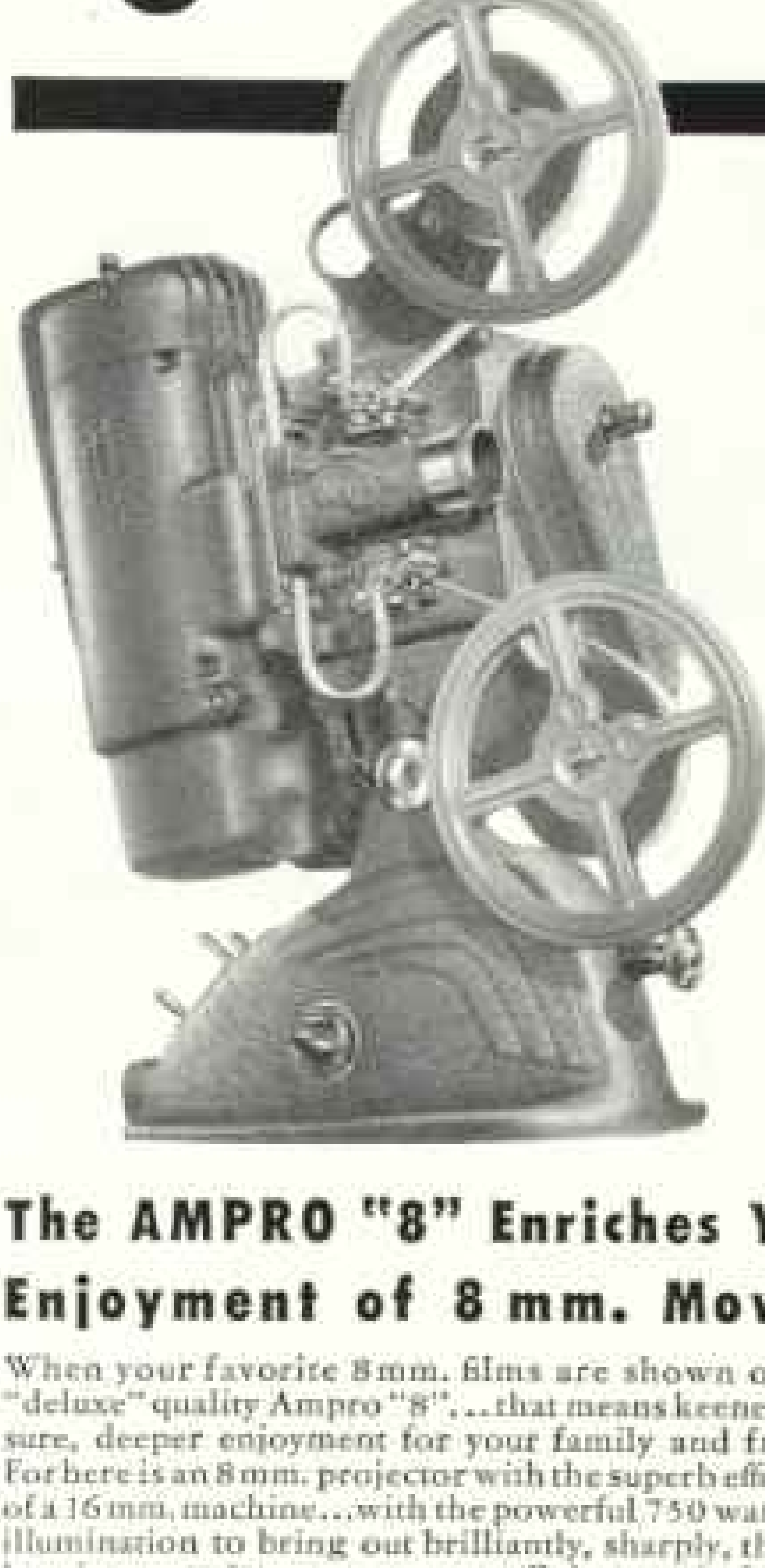
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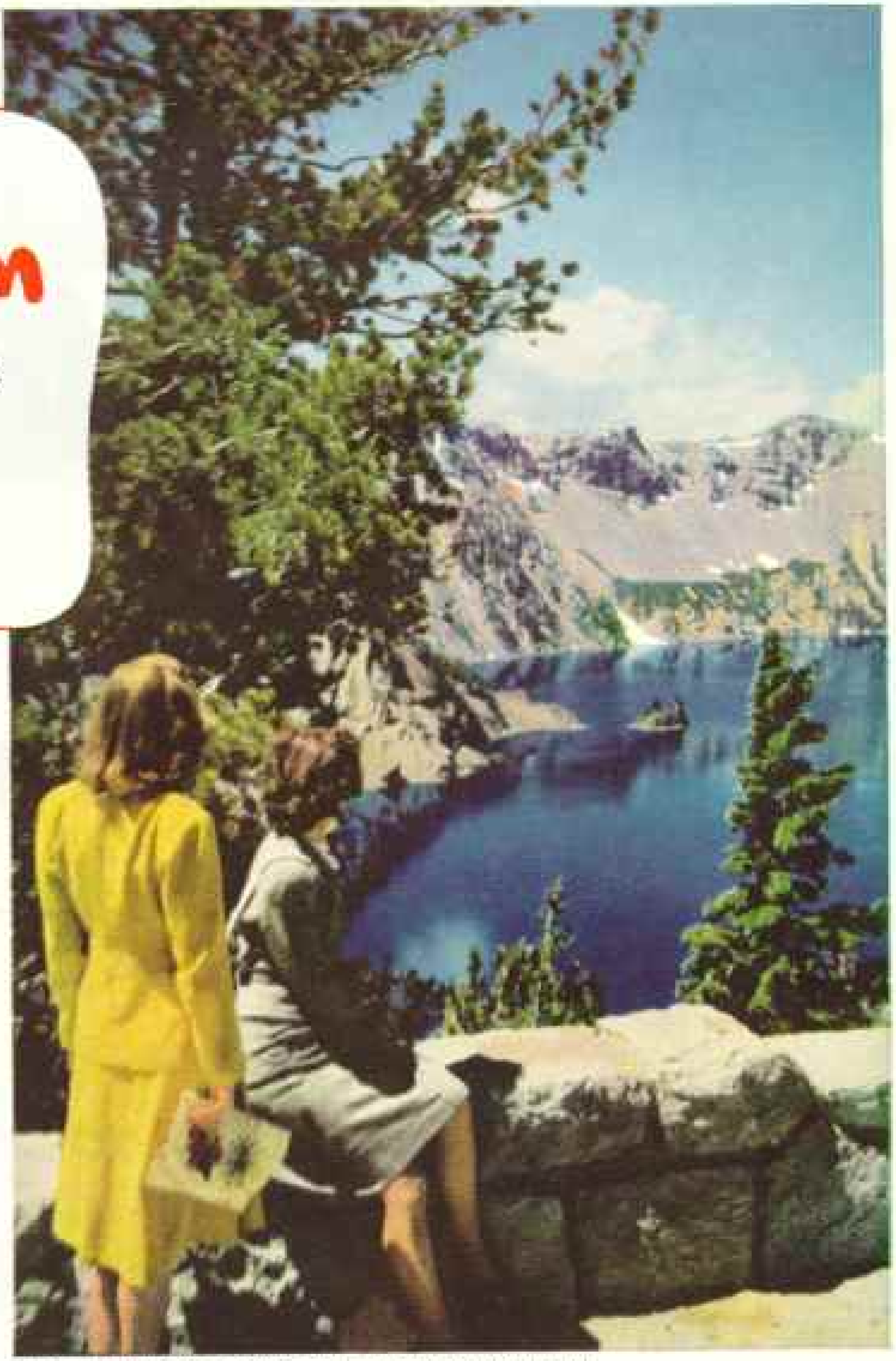



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SOME 'DOs' AND 'DON'Ts' FOR

APPENDICITIS



—learn the warning signals that may mean appendicitis! The first sign of acute appendicitis is usually pain in the abdomen accompanied by nausea or vomiting.

The pain may be general at first, like a simple stomach-ache, but will probably become localized in the lower right side. It can be a sharp severe pain or a dull ache. Symptoms sometimes vary, so any persistent, puzzling "stomach-ache" should have prompt medical attention.



—call your physician at once when such warnings appear! Appendicitis sometimes is difficult to diagnose. Your doctor may need to take blood counts or make other tests. Calling him promptly permits him to make such tests and to determine the proper treatment before serious damage has occurred.

Appendicitis now takes only about half as many lives as it took 12 years ago. More lives could be saved if everyone called a doctor at the first sign of an attack.



—treat yourself with home remedies! If you have an abdominal pain and are nauseated, avoid taking a laxative or enema. They may cause the appendix to rupture.

A study of appendicitis in one Eastern city showed that when appendicitis patients took *no* laxative, only 1 in 62 died. Of those who took a laxative, 1 in 19 died.

External pressure can also cause a rupture, so you shouldn't rub or massage the site of the pain. And it's wiser not to apply either a hot water bottle or an ice bag.



—try to keep going normally if you suspect appendicitis. Any physical exertion or exercise may lead to complications, so lie down, in bed if possible, and stay there.

The pain may let up but this does not mean the attack has passed. It's up to you to keep quiet and relaxed until the doctor comes. Food and liquids can also be dangerous. Try to avoid eating or drinking anything, except water, until your doctor has examined you.

As more people learn more about this disease, appendicitis mortality can be brought still lower. For further information that may protect you and your family, send today for Metropolitan's free booklet 127-N, "Appendicitis."

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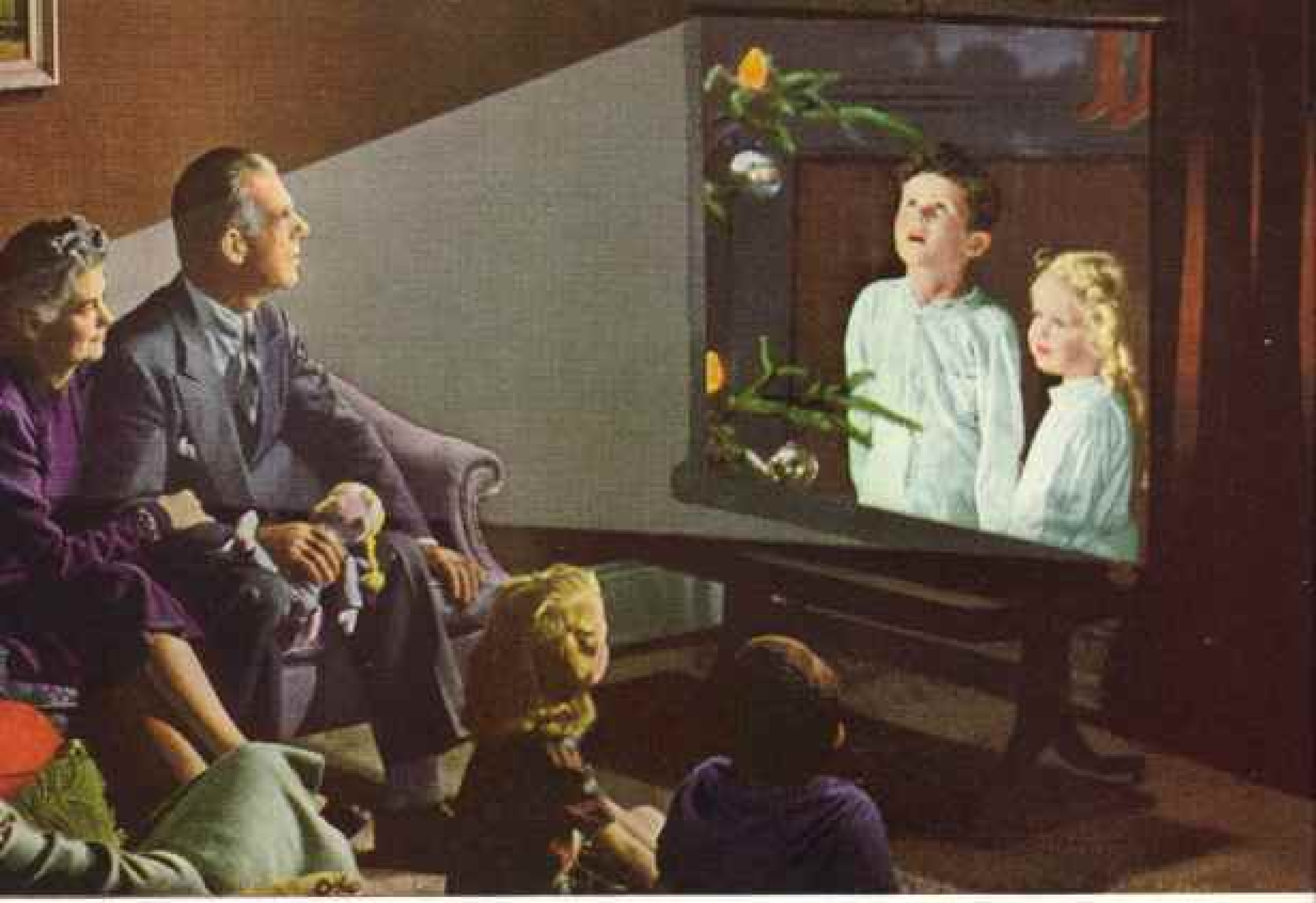


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Ciné-Kodak "Eight-25" Camera—A remarkable little camera with "fast" f/2.7 coated lens, fixed focus; built-in exposure guide. Makes a whole week-end of movies for less than $2.50, including finishing. Only $55, plus tax.



"Magazine" Ciné-Kodak—"Eight" or "Sixteen," with focusing f/1.9 coated lens interchangeable with telephotos; unique view finder; "slow-motion" control; built-in exposure guide. The "Eight," $125; the "Sixteen," $150—tax extra.



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"Great gift idea!" say the Tituses, praising General Electric's

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THE RESPONSIBILITY OF MANAGEMENT IN THE BELL SYSTEM

It used to be that the owners of practically every business were themselves the managers of the business. Today, as far as large businesses are concerned, a profound change has taken place. In the Bell System, for instance, employee management, up from the ranks, and not owner management, is responsible for running the business.

This management has been trained for its job in the American ideal of respect for the individual and equal opportunity for each to develop his talents to the fullest. A little thought will bring out the important significance of these facts.

Management is, of course, vitally interested in the success of the enterprise it manages, for if it doesn't succeed, it will lose its job.

So far as the Bell System is concerned, the success of the enterprise depends upon the ability of management to act as a trustee for the interest of all concerned: the millions of telephone users, the hundreds of thousands of employees, and the hundreds of thousands of stockholders. Management necessarily must do the best it can to reconcile the interests of these groups.

Of course, management is not infallible; but, with its intimate knowledge of all the factors, management is in a better position than anybody else to consider intelligently and act equitably for each of these groups—and in the Bell System there is every incentive for it to wish to do so.

Certainly in the Bell System there is no reason either to underpay labor or overcharge customers to increase the "private profits of private employers," for its profits are limited by regulation. In fact, there is no reason whatever for management to exploit or to favor any one of the three great groups as against the others and to do so would be plain stupid on the part of management.

* * *

The business cannot succeed in the long run without well-paid employees with good working conditions, without adequate returns to investors who have put their savings in the enterprise, and without reasonable prices to the customers who buy its services. On the whole these conditions have been well-met over the years in the Bell System.

Admittedly, this has not been and is not an easy problem to solve fairly for all concerned. However, collective bargaining with labor means that labor's point of view is forcibly presented. What the investor must have is determined quite definitely by what is required to attract the needed additional capital, which can only be obtained in competition with other industries.

And in our regulated business, management has the responsibility—together with regulatory authorities—to see to it that the rates to the public are such as to assure the money, credit and plant that will give the best possible telephone service at all times.

More and better telephone service at a cost as low as fair treatment of employees and a reasonable return to stockholders will permit is the aim and the responsibility of management in the Bell System.

Walter S. Gifford

WALTER S. GIFFORD, *President*
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